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HISTORY OF MACK RAIL MOTOR CARS AND LOCOMOTIVES

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Canadian National Railway
The Chesapeake and Ohio Railway
Chestnut Ridge Railway Co.
Chicago, Burlington and Quincy Railroad Co.
Chicago, Rock Island and Pacific Railroad Co.
Donner-Hanna Coke Corp.
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General Electric Co.
Great Northern Railway Co.
Lehigh Valley Railroad Co.
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New York Central System
The New York, New Haven and Hartford Railroad Co.
Northern Pacific Railway Co.
Norton Company
The Pennsylvania Railroad Co.
The Pittsburgh and Lake Erie Railroad
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Pullman-Standard Car Manufacturing Co.
Railway Age
Reading Company
St. Louis Car Co.
Southern Pacific Co.
Sperry Products, Inc.
Spokane, Portland and Seattle Railway Co.
United Fruit Company
United Railways of Havana
United States Rubber Co.
Wakefield Branch
Western Union Telegraph Co.

September, 1959

Lehigh Valley Chapter
National Railway Historical Society, Inc.
Allentown, Pennsylvania

PREFACE

Mack Trucks, Incorporated, the oldest commercial highway vehicle manufacturer in the United States, has also constructed self-propelled railway passenger motor cars, rail trucks, and switching locomotives at Allentown, Pennsylvania, and Plainfield, New Jersey, plants. The railway passenger car sold to the Uintah Railway Company of Colorado in 1905 qualifies them as being the oldest active domestic rail motor car manufacturer.

Proper identification, thorough description, and present use or disposition of one hundred and twelve Mack rail units posed a formidable task. Mack Trucks, Incorporated, retains adequate but not complete records; car builders who fabricated Mack car bodies have destroyed older records or have retired from competition; several railroads and industrial companies have destroyed records of retired equipment; some railroads have either ceased operations or have merged with larger systems; and trade journals could not possibly review every unit built in numerous car shops and factories.

Research, discussions, and voluminous correspondence accumulated facts herein presented. Mack supervisory and technical personnel who had been assigned to rail car construction enthusiastically furnished details during informal discussions; various railroads supplied records, blueprints, and photographs; industrial companies sent photographs and records; Mack Trucks, Incorporated, contributed brochures, photographs, a shipping list with serial numbers, existing production records, and plans; sundry railway trade periodicals provided general background information and technical facts; and many railway historians and hobbyists submitted data and photographs. All contributors, to whom the Lehigh Valley Chapter is most grateful, are listed alphabetically on the title page. Without the combined effort, Mack's rail motor car history could not have been informatively written or satisfactorily illustrated.

Events unfold in five categories: Introduction; Omnibus, Trolley, and Truck Type Rail Motor Cars, Gasoline, 1905-1937, Diesel-electric, 1951-1954; Railroad Coach Type Rail Motor Cars, Gasoline, 1923-1925, Gas-electric, 1927-1933; Locomotives, Gasoline 1921, Gas-electric, 1929-1937, Diesel-electric 1939; and Present and Future Use of Mack Rai Motor Cars and Locomotives.

Accepted railroad terminology, disregarding both structure and propulsion system, classifies self-propelled units as rail motor cars.

The text is an informative rendition for the layman rather than a report for the engineer. A roster, by serial number, known status or disposition of each car and locomotive, and structural and mechanical equipment lists follow each type's historical information. Available drawings of several Mack rail motor car models have also been included.

This history, the fourth published by the Lehigh Valley Chapter, National Railway Historical Society, Incorporated, will acquaint railway enthusiasts and historians with the lesser known, but significant, railway activities — local, national, and international in scope — achieved by Mack Trucks, Incorporated, and its personnel between February 8, 1905, and September 1, 1959.

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September 1, 1959
Editor
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INTRODUCTION

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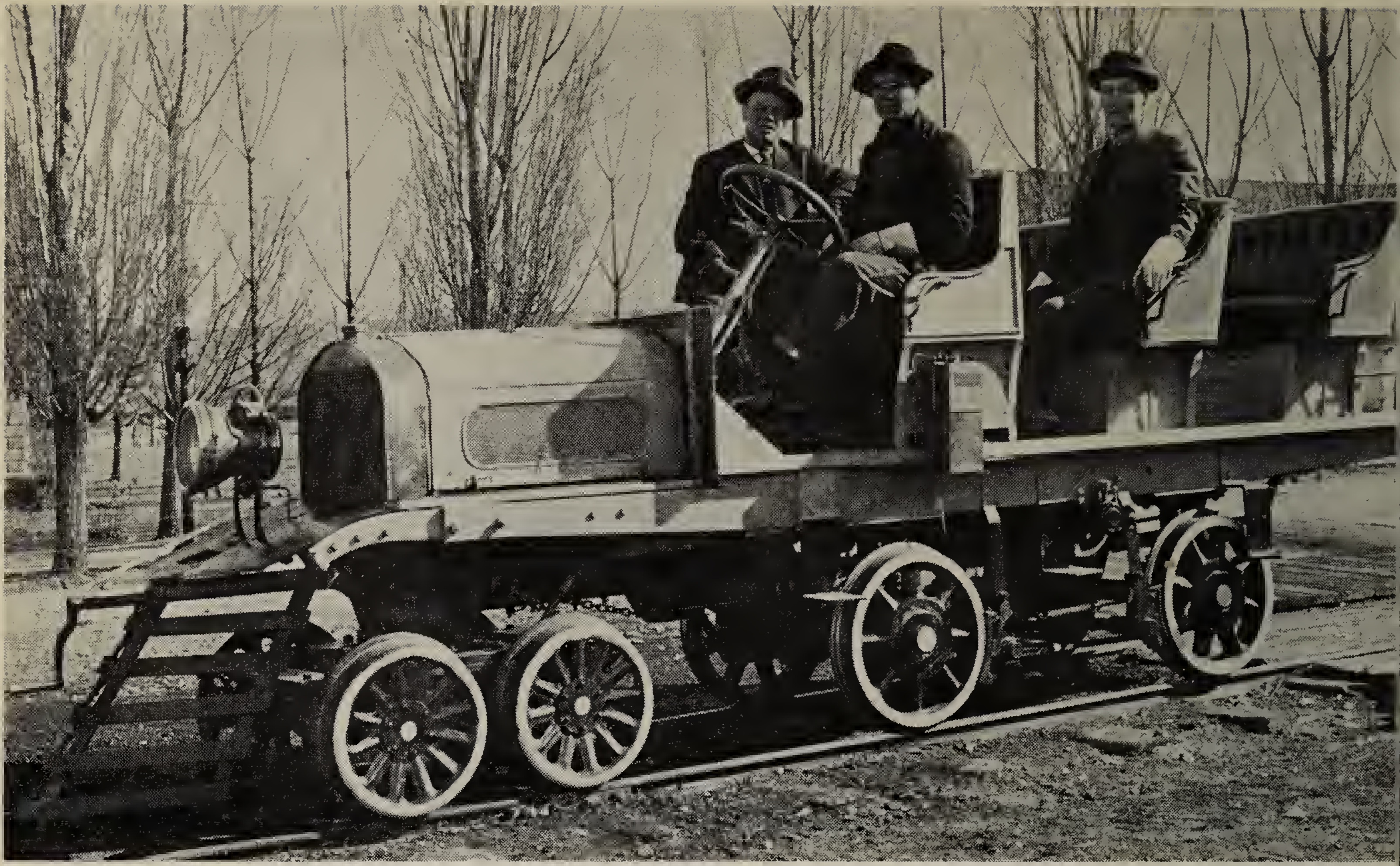
Mack Trucks, Incorporated, developed from a Brooklyn, New York, wagon shop in which three Mack brothers built their first gasoline propelled vehicle, an omnibus, in 1900. Favorable automotive markets eventually required reorganization and expanded production facilities. Mack Brothers Motor Company, chartered on February 8, 1905, as a manufacturer of highway and railway vehicles, commenced full scale production in a large plant in Allentown, Pennsylvania. In 1911, Mack Brothers Motor Company; Saurer Motor Company, Plainfield, New Jersey, a Swiss firm; and Hewitt Motor Company, New York, New York, an English firm, formed the International Motor Company. Official approval in 1922 renamed the corporate organization as Mack Trucks, Incorporated. Since 1920 physical expansion has included a new plant at New Brunswick, New ersey; additions and expansions at Allentown and Plainfield plants; and, in 1956, facilities and inventories of Brockway Motor Company, Cortland, New York, and C. D. Beck and Company, Sidney, Ohio. As of anuary 1, 1959, eighty-four domestic and three Canadian sales offices and service centers served prospective buyers and Mack product owners.

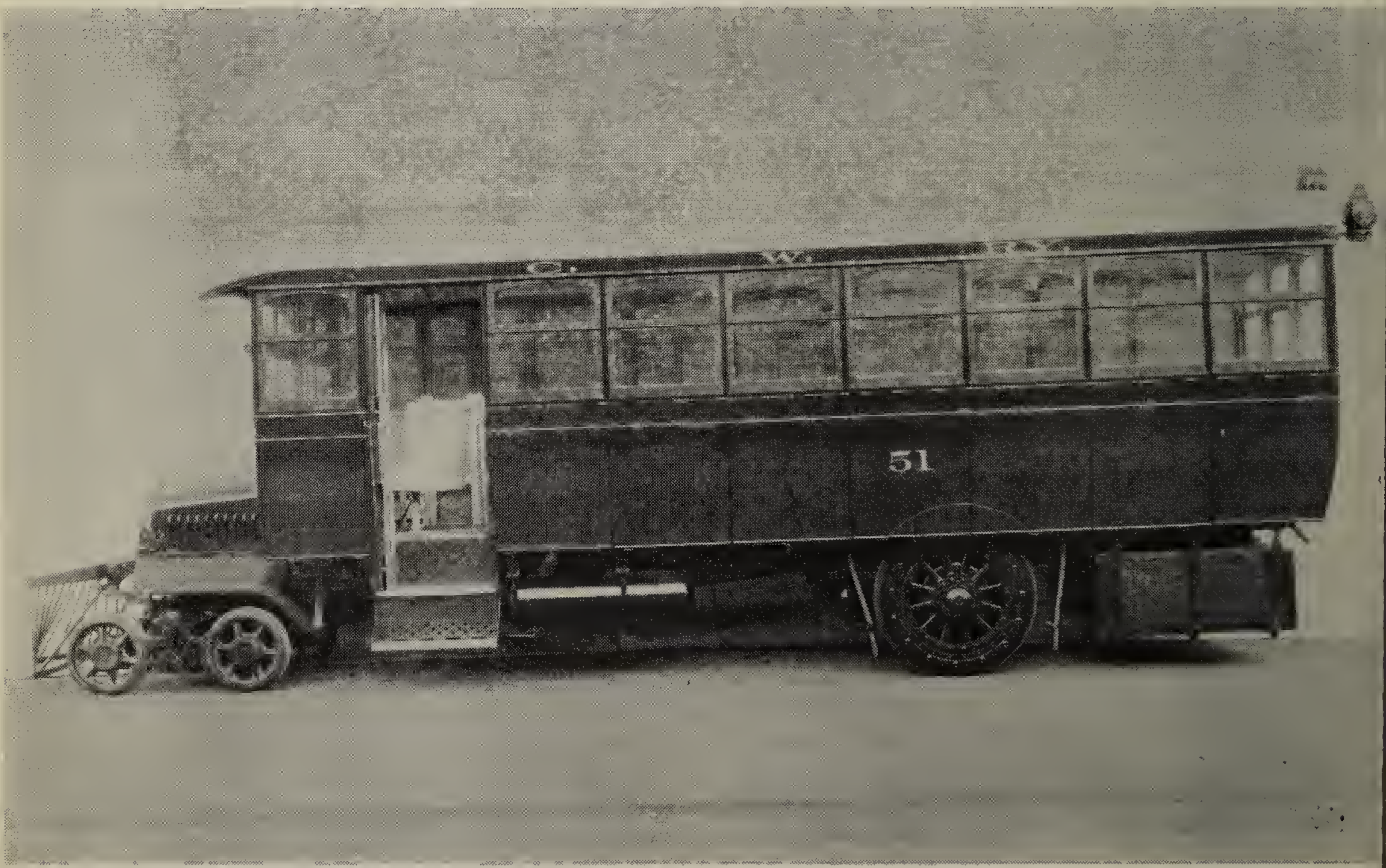
Railroads of the United States, generally regarding automotive railway equipment as impractical, offered negligible encouragement to rail motor car and gasoline locomotive builders prior to World War I, ut postwar conditions altered the railroads' position. Greater automobile production and increased aved highway mileage after 1920 jeopardized short-line steam railway assenger service, large systems' local and branch line schedules, and ntire electric interurban railways. n addition, antiquated steam locomotives, operating serviceable years n branch line service, contributed excessive maintenance and operational costs. Resultant decreasing revenues and profits required either service curtailments, trackage abandonments, or acquisition of other motive power.

Railway car builders and automotive industrialists collaborated and produced small simple constructed lightweight gasoline engine propelled passenger and combination rail motor cars, structurally resembling highway omnibuses, which, in addition to flexible and reliable performance, established a per mile operating cost approximately twenty percent of that recorded by conventional steam locomotive drawn passenger trains rendering identical service. Further automotive advancements through research and the major electric companies' activity produced improved gas-electric and diesel-electric systems. The diesel-electric system, after two decades of development, supplanted the steam engine as the predominant motive power during the decade following World War II.

One hundred and twelve gasoline, gas-electric, and diesel-electric rail motor cars and locomotives represent combined Allentown and Plainfield plant railway unit production between 1905 and 1959; the majority having been constructed between 1920 and 1930 inclusive. Thirty-nine railroads and twenty-three industrial companies in the United States, Canada, Bolivia, Colombia, Cuba, Hawaii, Honduras, and Korea purchased sixty-eight omnibus, trolley, and truck type rail motor cars; twenty-three railroad coach type rail motor cars; and twenty-one locomotives. From 1920 until 1937, except 1926, either Allentown or Plainfield Plant sold at least one railway unit each year. Mack also sold gasoline engines and complete gas-electric units outright to car builders.



Uintah Railway gasoline motor car, Mack's first railway unit, at Mack Colorado, circa 1910. Construction of this car commenced in Brooklyn, New York, in 1903 and concluded in Allentown, Pennsylvania, in 1905.



Chesapeake Western Railway No. 51, the first Model AB, at The J. G. Brill Company plant, Philadelphia, Pennsylvania, autumn, 1920. The rib side identified Brill car bodies.

OMNIBUS, TROLLEY, AND TRUCK TYPE RAIL MOTOR CARS

Gasoline, 1905-1937

The three-foot gauge Uintah Railway of Colorado purchased Mack's first rail motor car in 1905. Identifying features included a short chassis; three roofless seats setting behind the longitudinally placed six cylinder gasoline engine; a four wheel pony truck; and a four wheel shaft driven rear propulsion truck. Construction commenced in the Brooklyn, New York, shop sometime during 1903 and concluded in Allentown's No. 1 division. Mack shipped their second rail motor car to the three-foot gauge Silverton Northern Railroad on August 22, 1905. Named the "Mary M", this twenty-three passenger capacity car operated passenger service between Eureka and Silverton, Colorado.

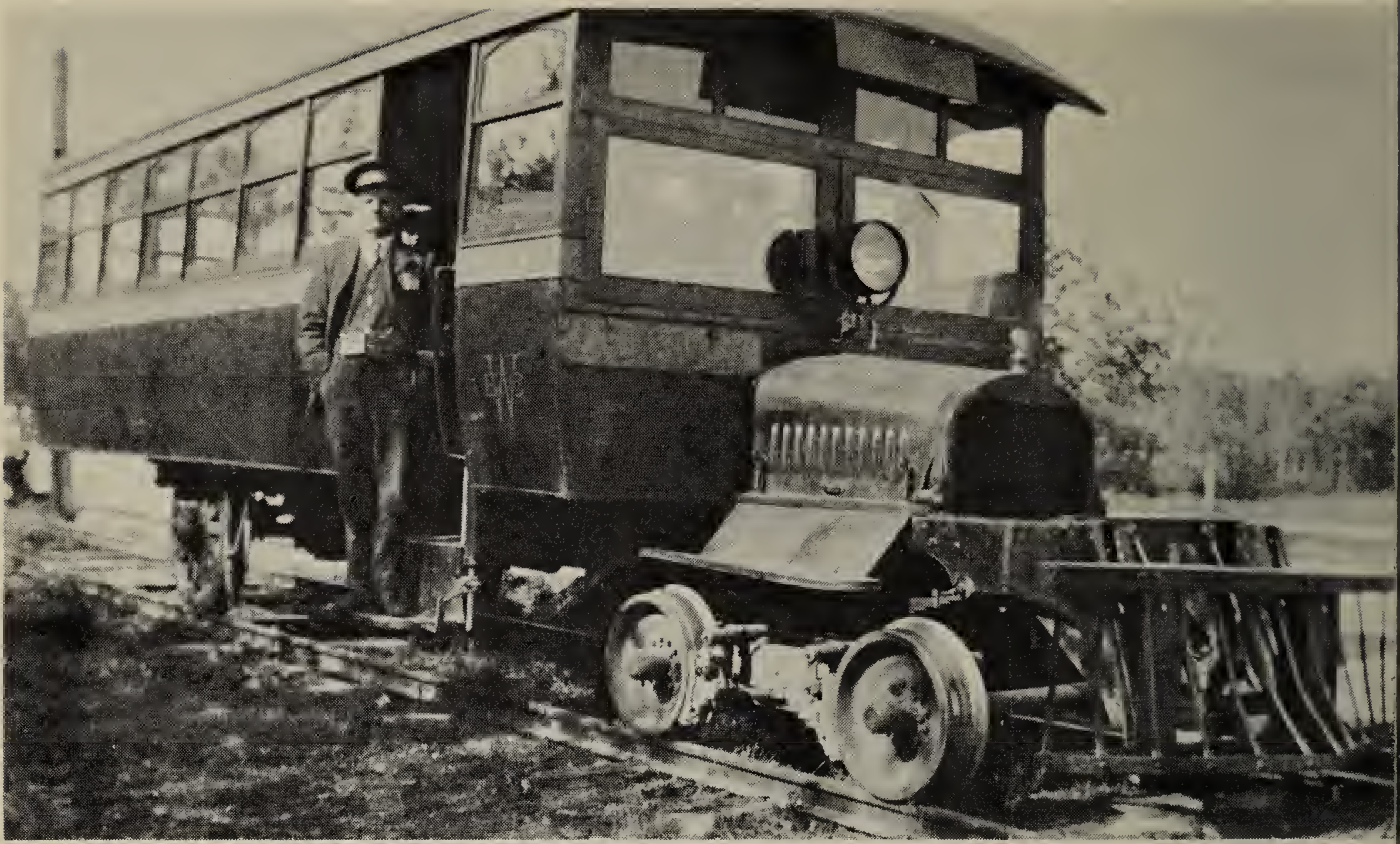
Employee recollections and available records do not reveal railway activity between 1906 and 1920 other than a gasoline engine installation on the platform of a single truck railroad roof street railway car bearing Spanish identifications at Allentown Plant, circa 1912. Several railroads, the Los Angeles and San Diego Beach Railway, for example, converted Mack highway vehicles to railway use by replacing highway wheels with a flanged type. Body structures varied.

Allentown Plant built the first wo and one-half ton Model AB omnibus type passenger rail motor car for Chesapeake Western Railway late in 1920 and the first five on Model AC omnibus type rail car or The New York, New Haven and Hartford Railroad late in 1921. A ound engine hood and brass shell ellular radiator setting before the engine identified Model AB cars and he sloping angular distinctive 'bull-dog'' hood, perforated by a ircular screen vent bearing IMT nitials, and the double fin tube ype radiator setting against the cowl, identified Model AC cars. A single axle two flanged wheel rear railway truck, shaft driven by the four cylinder engine setting longitudinally in the chassis' forward section, and a double axle four flanged wheel pony truck replaced the four conventional rubber tire highway wheels.

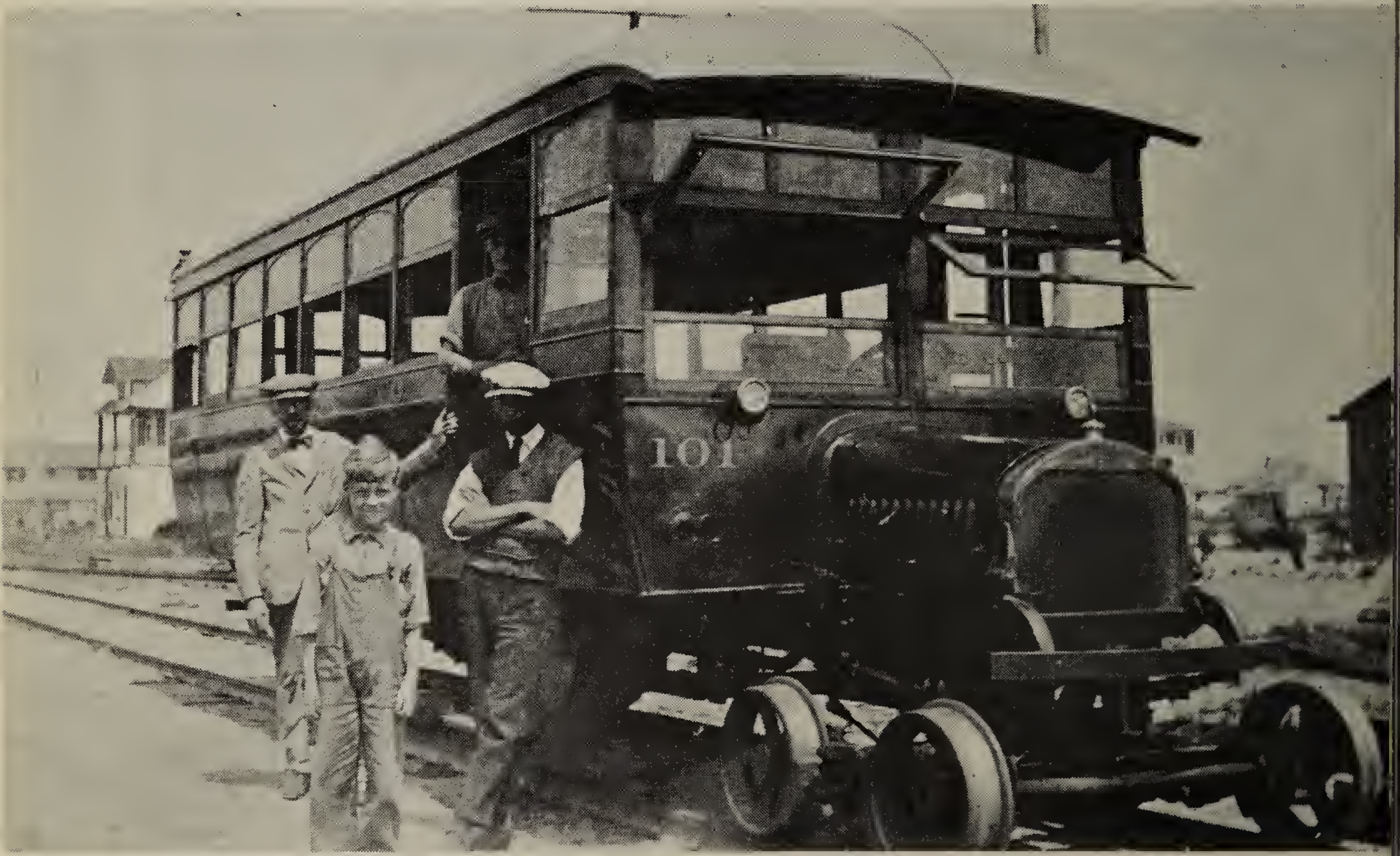
Mechanically Mack omnibus rail motor cars operated similarly to highway vehicles; however, Interstate Commerce Commission regulations and standard railway practices required adjustments and other equipment. Pony truck, pilot, hand brake, hand holds, single headlight, signal and classification lights, flag and lamp brackets, and a locomotive bell, in addition to railway trucks with flanged wheels, created a highway-railway hybird.

Contemporary railroad and street railway car builders fabricated Mack rail motor car bodies. The J. G. Brill Company, Philadelphia, Pennsylvania; Osgood-Bradley Car Company, Worcester, Massachusetts; and McGuire-Cummings Manufacturing Company, Paris, Illinois, fabricated omnibus type rail car bodies between 1920 and 1925. Mack usually shipped the assembled chassis, engine, and railway trucks on railroad car to a body manufacturer who, after body installation, shipped the complete unit, properly painted and identified, directly to the purchaser either on wheels or railroad car. Buyers selected standard passenger-baggage or passenger bodies or ordered a body fabricated to special dimensions.

Brill also produced a Model AB trailer car which Camp A. A. Humphrey's Model AB motor car drew by means of radial bar couplers, but Mack engineers, aware that manufacturers had not developed heavy duty railway type gasoline engines,



Winnipeg Electric Company No. 333, Model AB, the No. PM3 renumbered during street railway assignment, at Stonewall, Canada, August, 1933.



Stone Harbor Railroad No. 101, Model AB, at Stone Harbor, New Jersey, in the 1920's.

discouraged trailer hauling by Model AB and AC cars.

Qualified railroad crews guided Mack representatives who delivered cars on wheels over railroads in the United States. The Lewisburg, Milton and Watsontown Passenger Railway No. 20, a Model AC rail motor car purchased by The Pennsylvania Railroad to supplement north-south street railway service with connecting east-west railway service in Pennsylvania's Susquehanna River Valley, operated under its own power over one hundred and sixty-five miles of The Pennsylvania Railroad's main line trackage between Philadelphia and Montandon after delivery from The J. G. Brill Company factory. Seattle, Portland and Spokane Railway's No. 1103 moved under its own power between McGuire-Cummings Manufacturing Company, Paris, Illinois, and St. Louis, Missouri. A railroad car carried No. 1103 between St. Louis and Portland, Oregon.

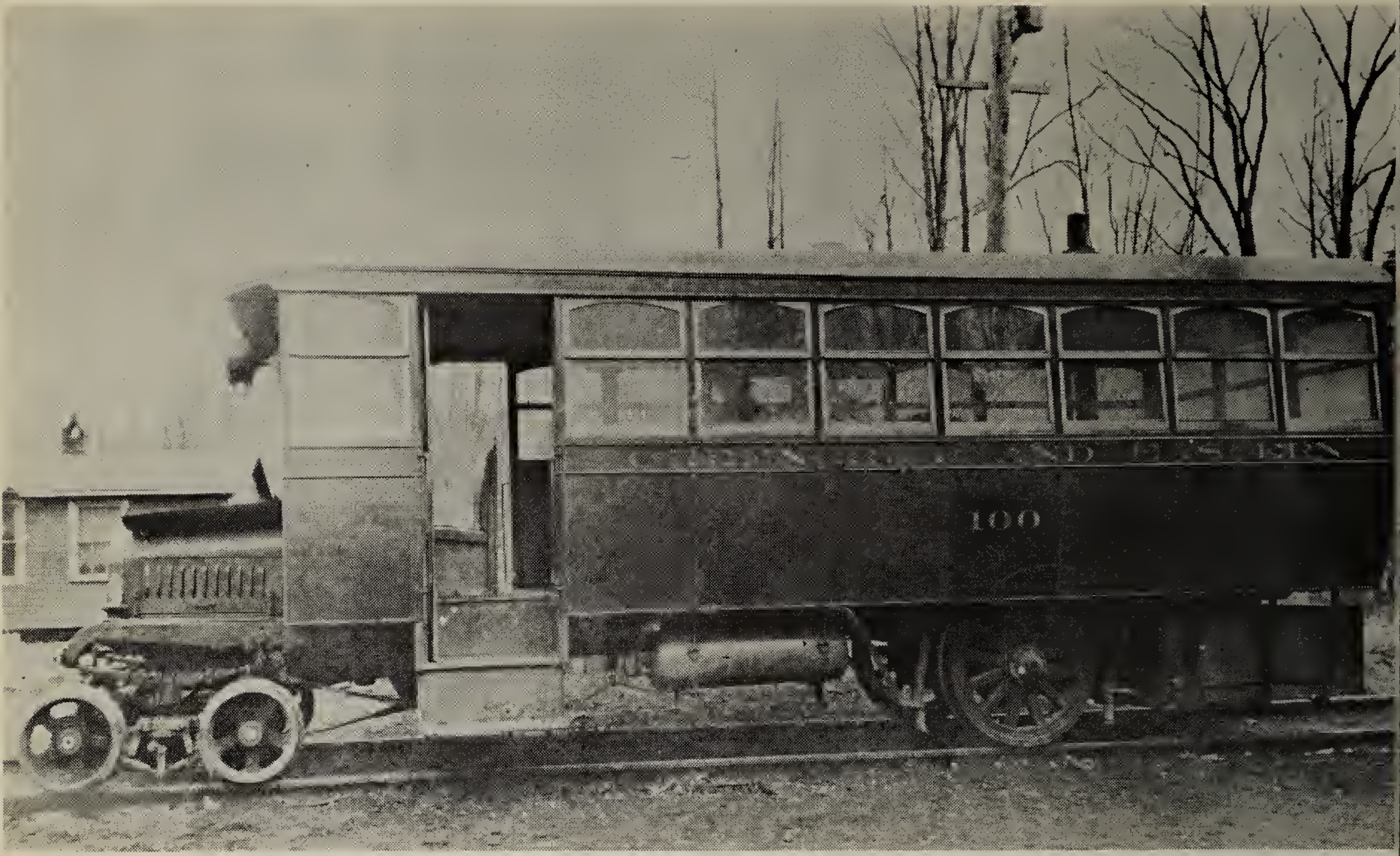
Mack's rail car department displayed an unidentified omnibus rail motor car at the Railway Supply Manufacturers Association exhibit in Atlantic City, New Jersey, during June, 1922, and conducted demonstration tests over eastern and midwestern railroads. Pathe News cameramen photgraphed a Chicago area demonstration trip of a Model AC car in 1922 for their famous weekly newsreel presentation. Brochures and letters directed to railway officials listed gasoline rail motor car advantages: one man operation, operation similar to an automobile, an ideal official inspection unit, an economical crew conveyance between shops and hump yard, and idle time maintenance cost elimination by disengaging the ignition switch.

Single end control Mack omnibus type rail motor cars, although the propulsion mechanism included a reverse transmission, seldom operated backwards in revenue service. Railroads utilized existing turntables and wyes or constructed small turntables near termini. The New York, New Haven and Hartford Railroad Company Model AC car No. 9002, equipped with a small plow at the No. 2 end, also performed, in reverse movement, branch line snow removal assignments.

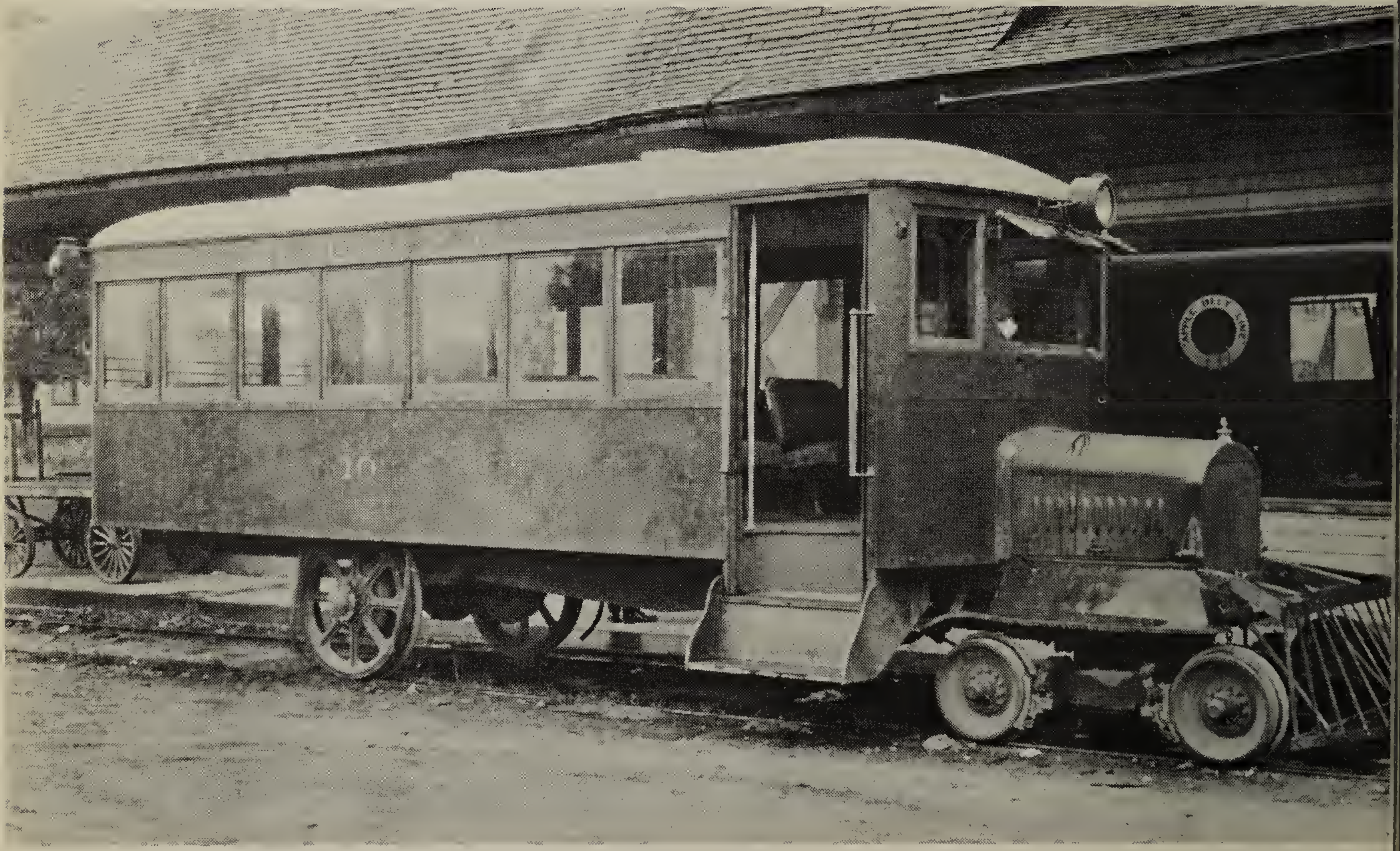
In 1923 Mack introduced Model ACX, a revised Model AC type, when railway mechanical engineers urged the replacement of the two wheel rear truck with a four wheel type. All revisions, adding approximately five more tons of weight, included a double axle four wheel rear truck; 80 hp. four cylinder engine; standard railway couplers (optional); longer chassis; and larger body.

Americans' increasing desire to travel in their own highway vehicles by 1925 created a condition which further adversely affected moderately patronized branch line services. Some railroads discontinued new light or medium weight rail motor car purchases but retained cars operating established service; other systems either scrapped motor cars or sold them to railways which retained such operations. Many small and medium size rail motor cars remained in service during the 1930's but only a few operated as late as 1959.

Mack's omnibus rail motor car production, inactive after California Western Railroad No. M80, Model ACX, had been shipped on December 30, 1925, revived briefly during the early 1930's. Plainfield Plant, on June 21, 1930, completed a six wheel Model AB rail motor car which Imperial Oil Company identified as No. 20 and assigned to its subsidiary, Tropical Oil Company, in El Centro, Colombia. Plainfield Plant also shipped, on May 5, 1932, mechanical parts, structural equipment, engine, and plans to the United Railways of Havana. In the Havana shop employees assembled Model ACX car No. 811.



Greenbriar and Eastern Railway No. 100, Model AB, at Rainelle, West Virginia, March 12, 1928.



Mt. Hood Railroad No. 10, Model AB, at Mt. Hood, Oregon, circa 1930. McGuire-Cummings Car Company, Paris, Illinois, fabricated the straight side body.

The Wilkes-Barre and Hazleton Railroad, a third rail electric railway connecting Pennsylvania's eastern middle and northern anthracite coal fields, discontinued interurban car operations between Hazleton and Wilkes-Barre on October 1, 1932, and introduced gasoline rail motor car service between Hazle Park and Wilkes-Barre with three Mack highway type omnibuses which Allentown Plant had revised identically to Model AB wheel arrangement. When WB&H motor car operations ceased on September 17, 1933, the Lehigh Valley Transit Company, Allentown, Pennsylvania, acquired, reconverted, and operated the three omnibuses as highway vehicles until their 1938-1940 modernization program eliminated all forward engine types.

An unidentified company in St. Louis, Missouri, converted three Mack conventional highway omnibuses to railway operation for the St. Louis and Hannibal Railroad during the 1930's. The conversion resembled Model AC pattern.

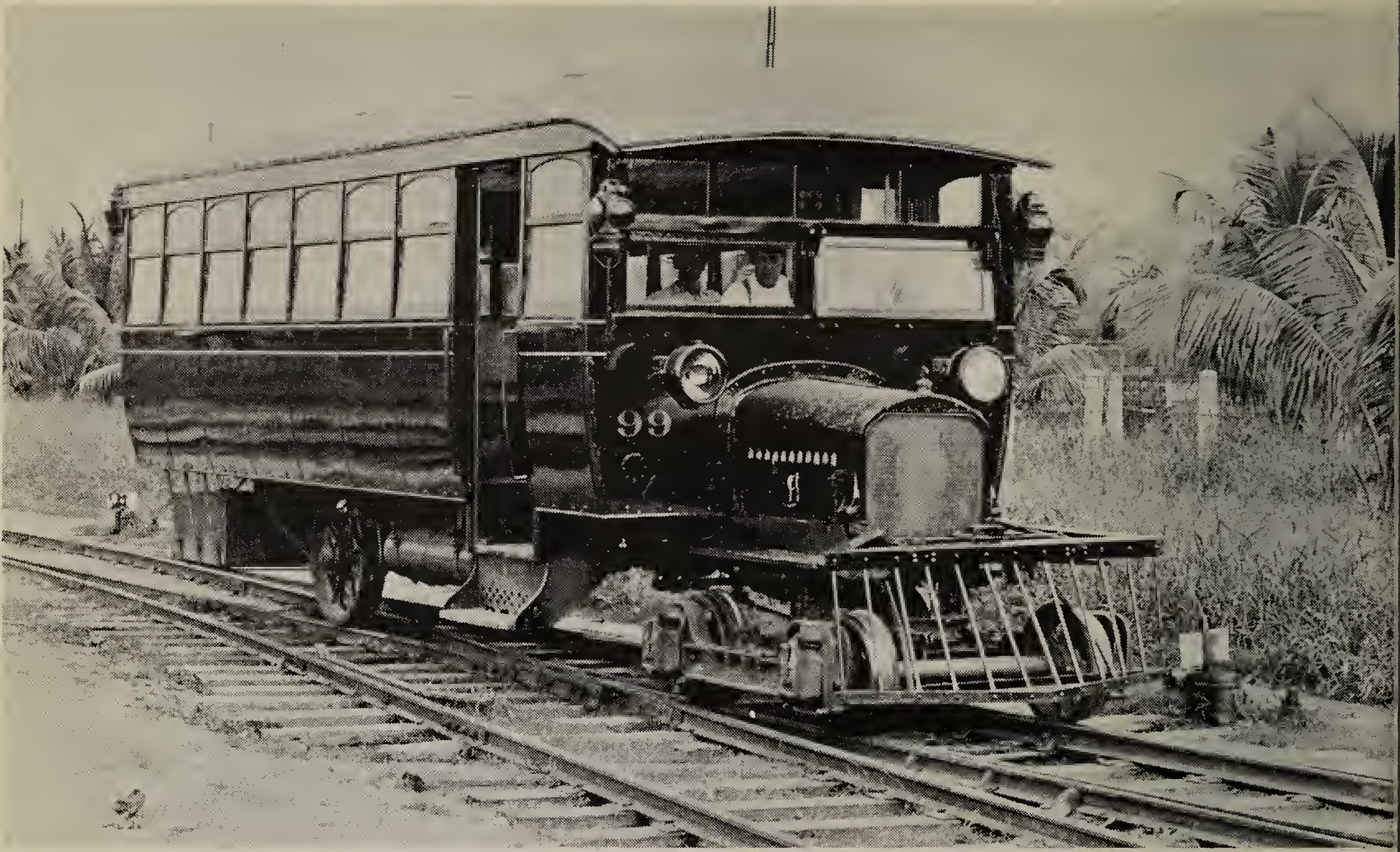
Mack also adapted standard highway truck models to railway use similarly to Model AB six wheel and Model ACX double truck arrangements. Body structure, engine, and cab style reflected purchasers' requirements. Double truck narrow gauge Model BX rail truck chassis sold to Patino Bolivian tin interests in July, 1937, was the last pre-World War II and, as of January 1, 1959, the last gasoline engine propelled Mack railway unit.

Diesel-electric, 1951-1954

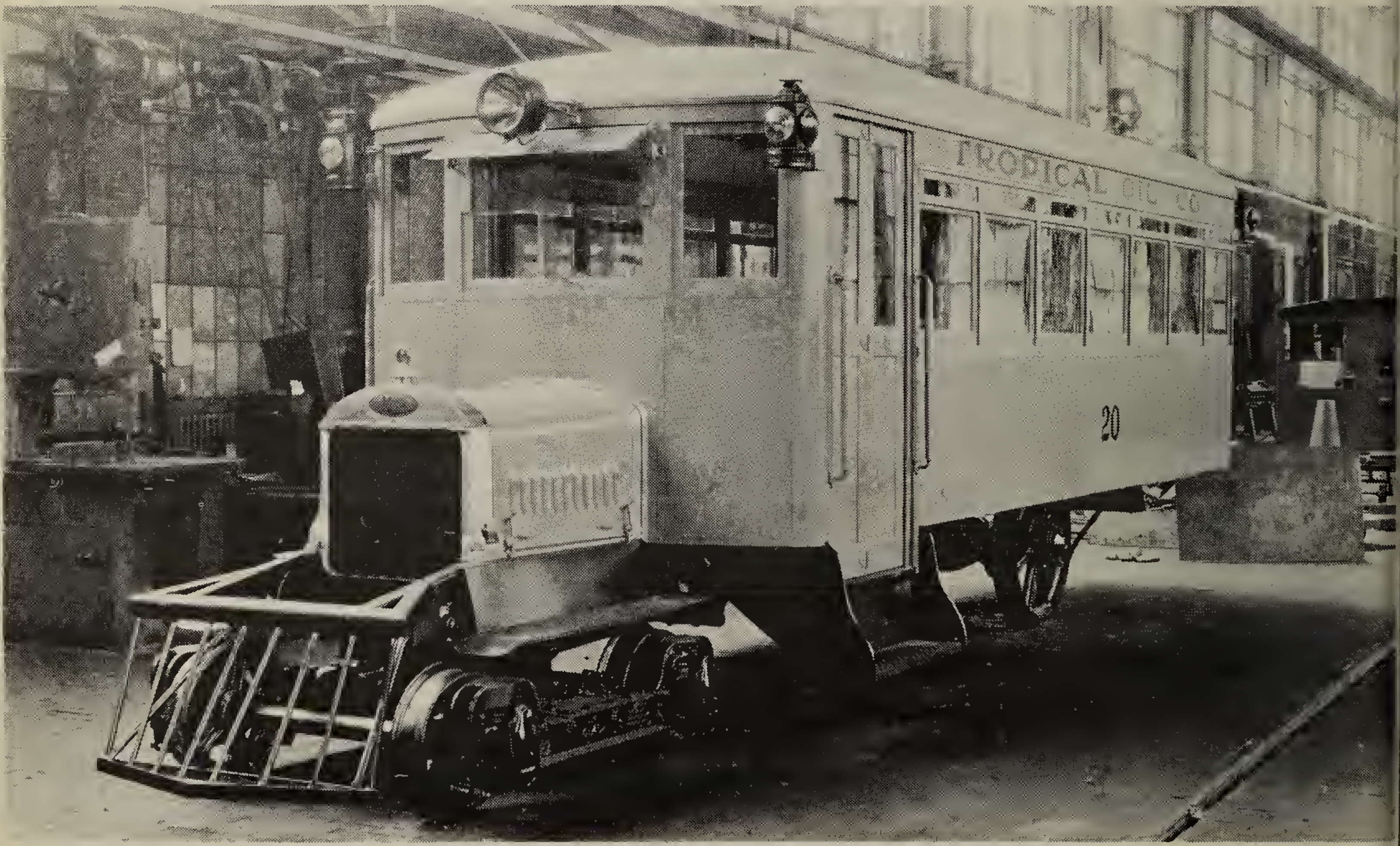
Allentown Plant's No. 5C division during October, 1951, completed The New York, New Haven and Hartford rail motor car No. 10, a 21 ton double end Model FCD, Type I, painted turquoise and cream. Structurally, except the additional left side front door and operator's front center position, No. 10 resembled Model C50 rear engine omnibus operating New York City street service. Safety features included a rear left side emergency door. shatter-proof window panes; and a brake-accelerator interlocking system which prevented movement when doors remained open. The FCD classification honored F. C. Dumaine, New Haven's president, who advocated the operation of small economical lightweight high speed self-propelled cars in branch line commuter or main line feeder services.

No. 10 entered Boston-Blackstone service early in 1952, eventually operated Buzzards Bay-Woods Hole schedules, and concluded its operation in August, 1954, maintaining Taunton-Fall River schedules. Meanwhile, in 1953, New Haven's management ordered nine Model FCD, Type II, diesel-electric cars Nos. 11 to 19 inclusive.

Type II revisions included right and left side center entrances; St. Louis PCC type street railway trucks; a No. 1 end train door and lightweight coupler provided tandem operation facilities; double end right hand controls; and a dark green and cream-white paint scheme. Each car completed test runs during July and August, 1954, over Reading Company's main line trackage between Allentown and Alburtis prior to its shipment to Readville, Massachusetts, on one



Tela Railroad No. 99, Model AB, serving the United Fruit Company's Honduras subsidiary, circa 1923.



Tropical Oil Company No. 20, Model AB, in Mack's Plainfield Plant ready for shipment to Colombia, June, 1930. Imperial Oil Limited, Toronto, Canada, controlled Tropical Oil Company at that time.

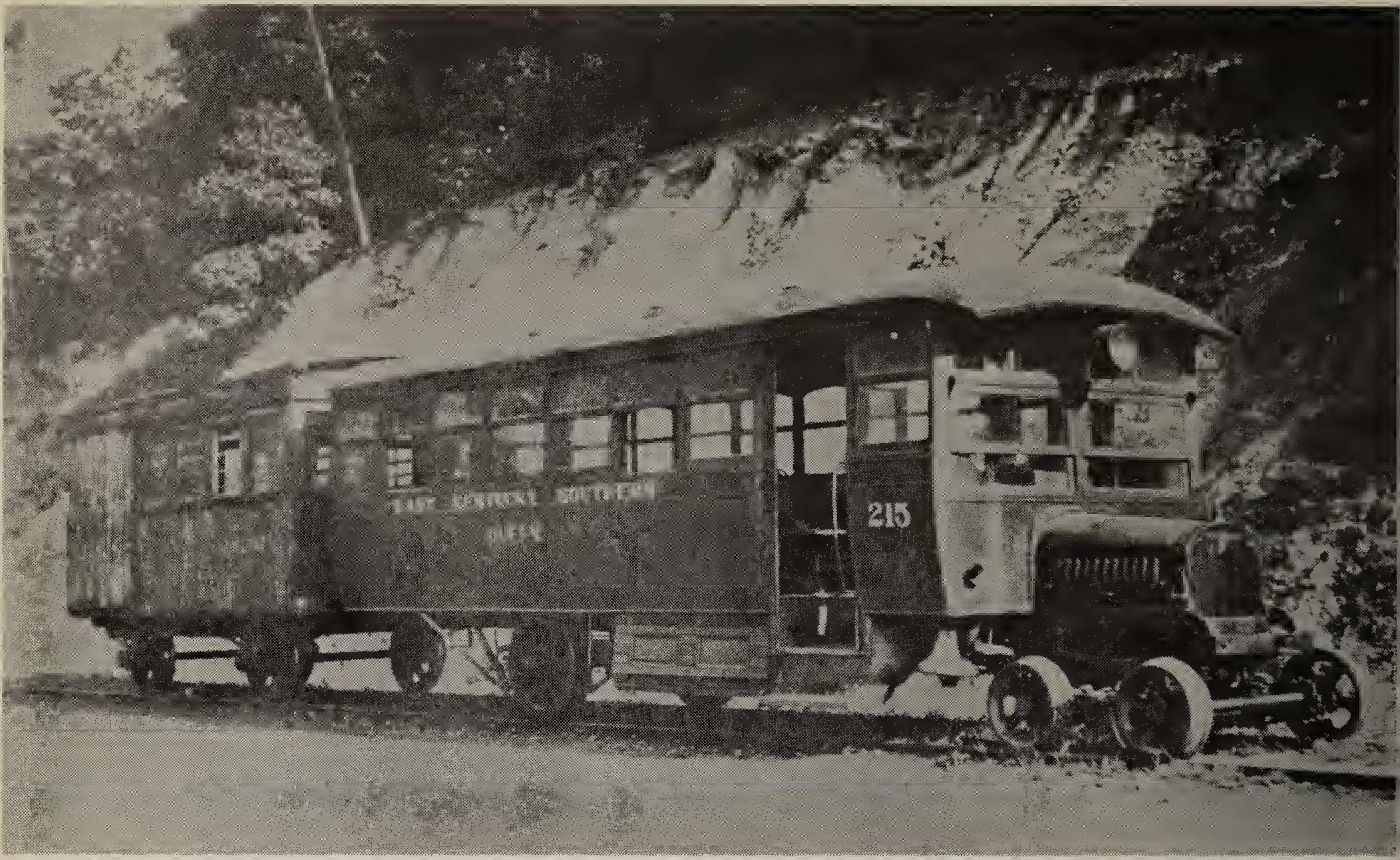
of two special rigged New Haven flat cars.

New Haven identified Nos. 10 to 19 inclusive as Rail Diesel Cars (Mack). Standard modern diesel-electric locomotive repair and maintenance facilities serviced Model FCD cars, and the Mack engine consumed standard 45 cetane No. 2 diesel fuel.

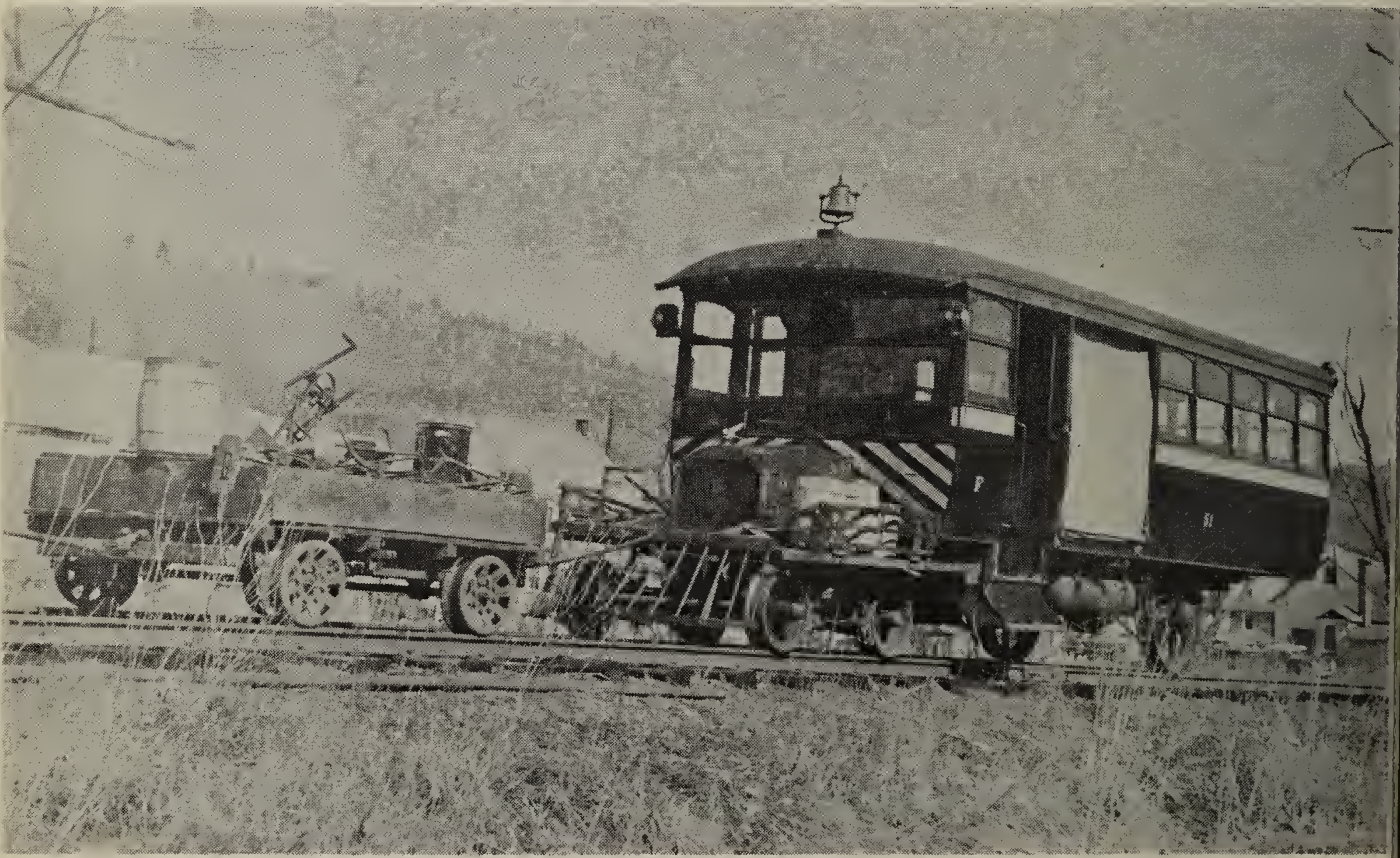
In August, 1954, before Mack had completed Model FCD, Type II, deliveries, The New York, New Haven and Hartford Railroad's new administration rejected proposed commuter plans and retired No. 10 to storage at Readville, Massachusetts, along with Nos. 11 and 13 to 19 inclusive as they arrived. No. 12 received the "Little Shore Liner" assignment between Worcester, Massachusetts, and Providence, Rhode Island, until its retirement to storage during December, 1956. Meanwhile, New Haven offered all units for sale.

Sperry Products, Incorporated, expanding rail testing facilities, purchased No. 19 in July, 1958, and No. 18 in September, 1958. Before delivery, Readville shops removed New Haven identifications, painted Sperry Rail Service on the body, and renumbered No. 19 to No. 402 and No. 18 to No. 403. Sperry shipped No. 402 through New York port in October, 1958, to Cologne, Germany. In Cologne, J. Krautkramer Company installed ultrasonic detection instruments and West Waggon Company modified the body structure. Sperry themselves converted No. 403 at their Danbury, Connecticut, plant.

Sperry equipped No. 402 solely to conduct four tests per year over New York Transit Authority's subway system trackage and, accordingly, applied appropriate NYTA colors. Catalytic mufflers insured safe operation of the diesel engine through the subterranean roadway. No. 403, scheduled to be released during 1960 in the traditional Sperry yellow paint scheme, will be added to the rail tester group serving all railroads in the United States.



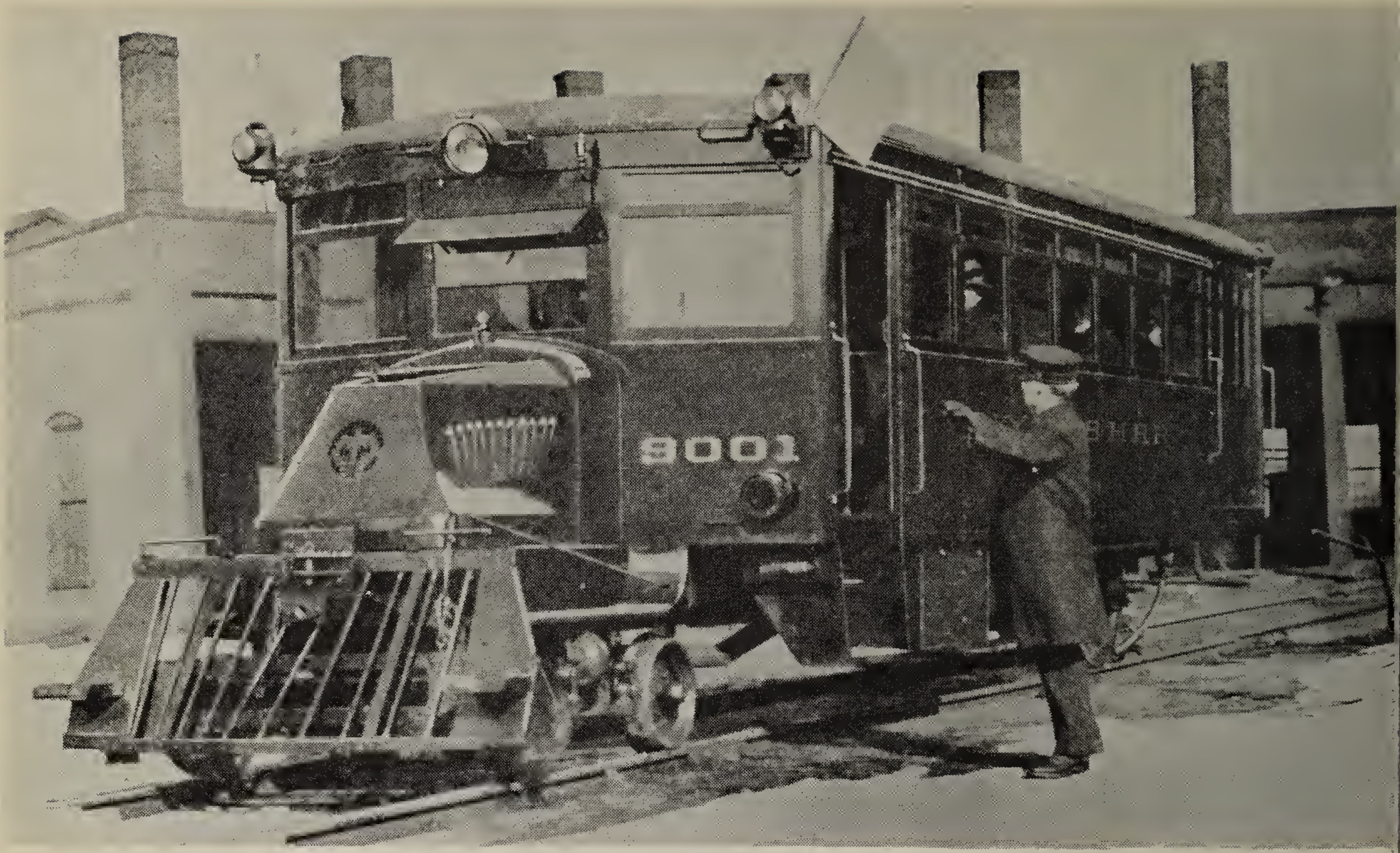
East Kentucky Southern Railway No. 215, the "Queen", originally owned by the Sewell Valley Railway, at Hitchens, Kentucky, with baggage trailer, circa 1930.



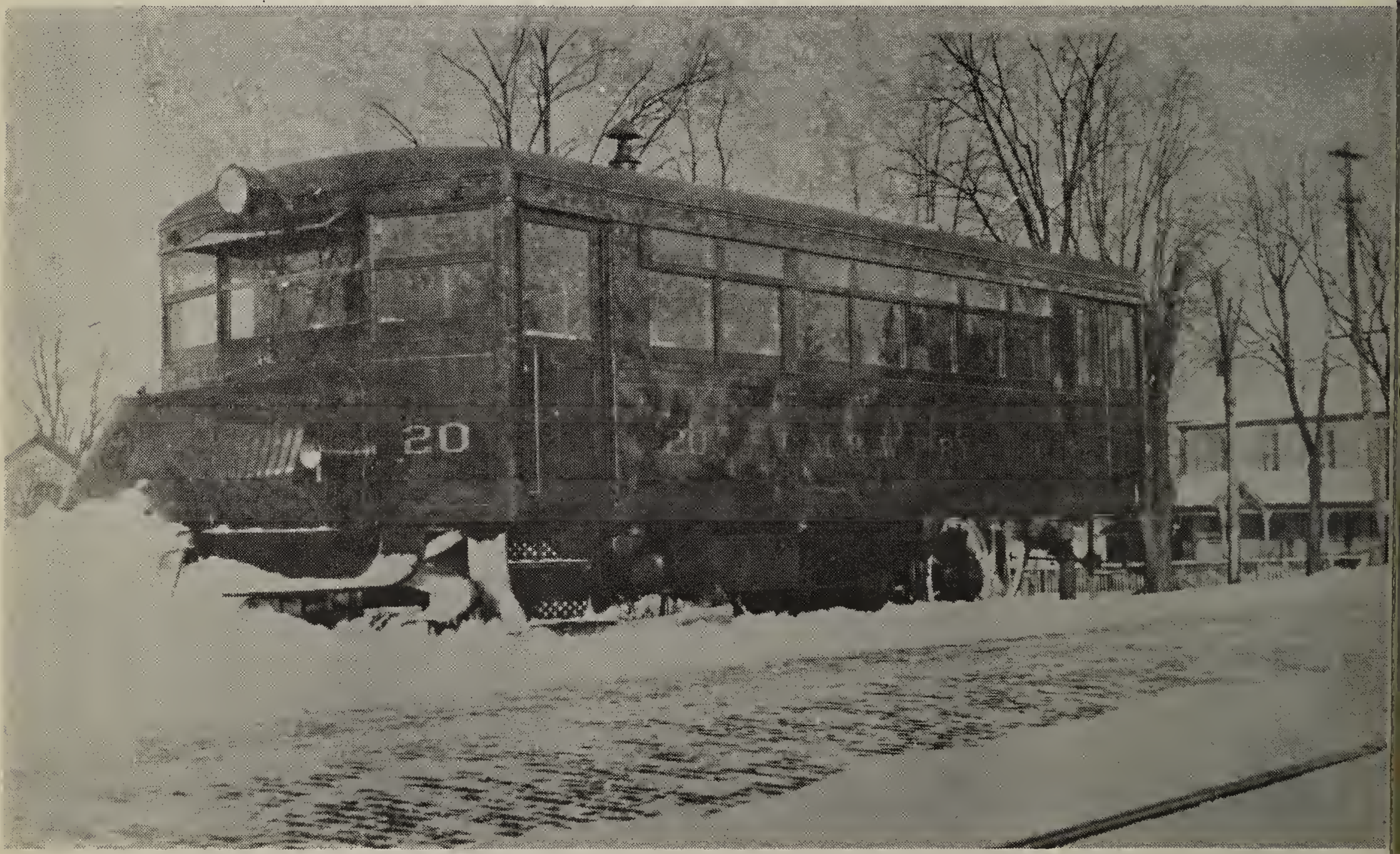
Chestnut Ridge Railway No. 51, ex Pittsburgh, Lisbon and Western No. 51, Model AB, at Little Gap, Pennsylvania, performing maintenance of way assignment, March 7, 1955.

TECHNICAL INFORMATION, OMNIBUS TYPE RAIL MOTOR CARS

	Model AB	**Model AC**
Body	22', 2", steel frame, steel plate; pass. or comb.; arch roof, canvas cover.	27', 9 11/16", steel frame, steel plate; pass. or comb.; arch roof, canvas cover.
Seating Capacity	21-29, stationary, rattan; 1 operators	31-35, stationary, rattan or leatherette; 1 operators.
Heating	2 lge. exhaust pipes from engine, valve controlled.	2 lge. exhaust pipes from engine or Peter Smith coal heater
Ventilation	3 roof ventilators, mov. louvres	4 roof ventilators, mov. louvres
Frame	Pressed steel	Pressed steel, cast stl. bolster
Pilot	Wrought iron and pressed steel	Wrought iron and pressed steel
Hood	Round	"Bulldog"
Salon	Dry hopper (optional)	Dry hopper (optional)
Wheels	4-20" on front truck; 2-30" on rear truck	4-20" on front truck, 3" axle; 2-40" on rear truck, 4" axle.
Brakes	Foot pedal applied rear wheel shoes; wheel applied pony wheel shoes; staff emergency to rear wheels.	Straight air to all wheels; steering wheel hand brake; staff emergency to rear wheels.
Lightweight	11,000 lbs.	20,000 lbs.
Overall Dimensions	28', 7¾" long; 7', 10½" wide; 11' high.	34', 7⅜" long; 9', 6" wide; 10', 9" high.
Truck cent.	16 feet.	22-24 feet.
Engine	Mack AB, 4 cyl.; 25-45 hp; 4½" bore, 5" stroke	Mack AC, 4 cyl.; 64 hp; 5" bore, 6" stroke
Oil System	Gravity and splash	Gravity and splash
Transmission	4 forward gears in main transmission; 4 gears in reverse transmission. Proportioned for railway use.	4 forward gears in main transmission; 4 gears in reverse transmission. Proportioned for railway use.
Clutch	Multiple disc dry	Single plate dry disc
Ignition	Electric starter	High tension magneto, impulse electric starter
Generator	Motor driven	Motor driven, 12 v.
Carburetor	Zenith plain tube	Zenith plain tube
Battery	Exide, 12 v, 6 cell	Exide, 12 v, 6 cell, 150 amp. hrs.
Drive	Shaft to rear floating axle	Shaft to bevel gear on rear axle
Cooling System	Cellular type radiator, 22" fan with 5 blades.	Cowl position fan draws air and blows outward through 2 fin tubes
Fuel Cap.	20 gallons	20 gallons
Fuel Feed	Foot pedal	Foot pedal
Lights	1 headlight; 2 classification; 10 interior	2 headlights, fr. and rear; 2 class; 12 interior dome
Controls	Left front	Left front
Signals	Bell and air horn	Bell and diaphragm air horn
Couplers	Radial bar (optional)	Climax lightweight (optional)
Sanders	Rear truck, both directions	Rear truck, both directions
Max. Speed	28 mph.	42 mph.



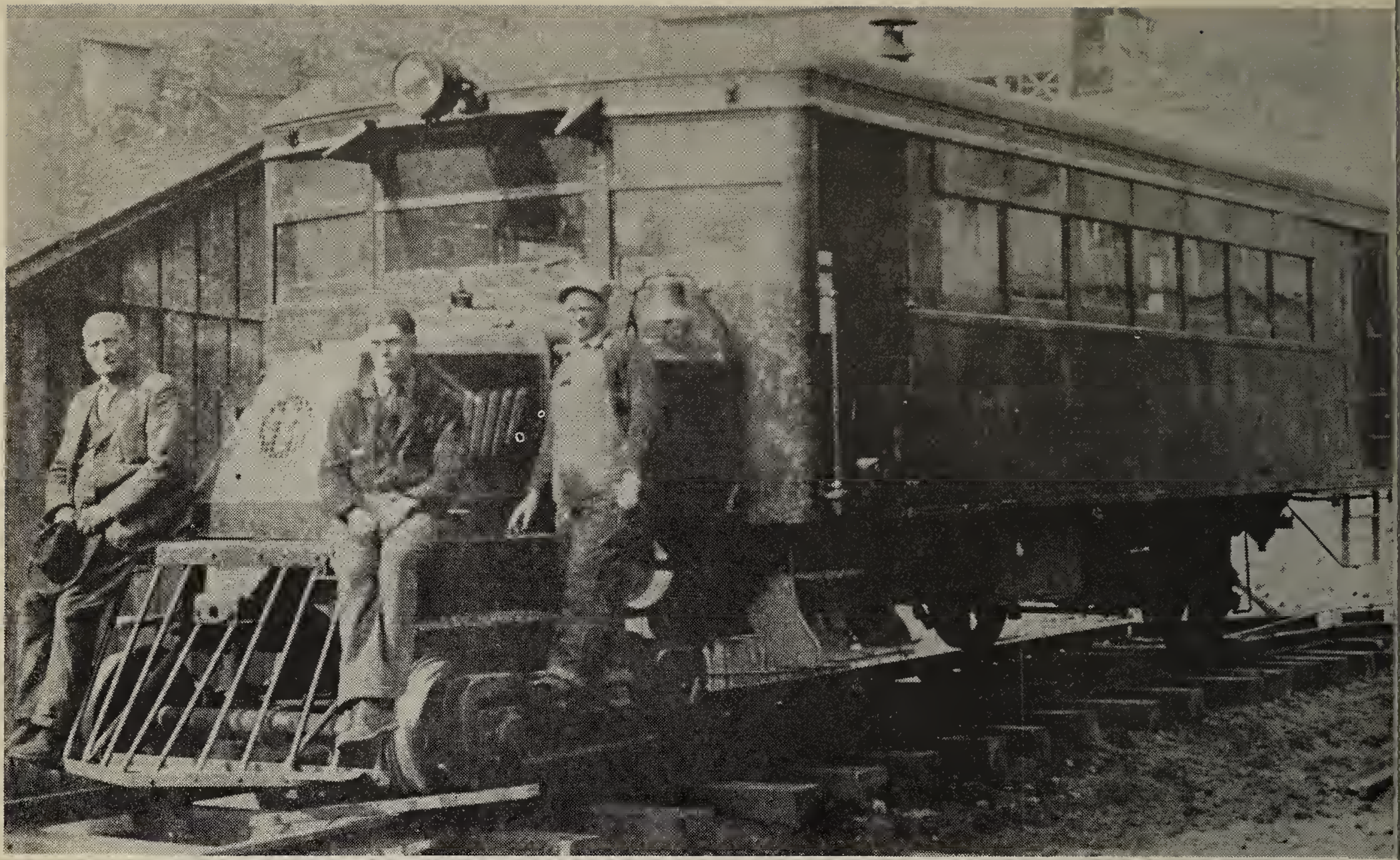
The New York, New Haven and Hartford Railroad No. 9001, the first Model AC, performing tests at New Haven, Connecticut, during December, 1921.



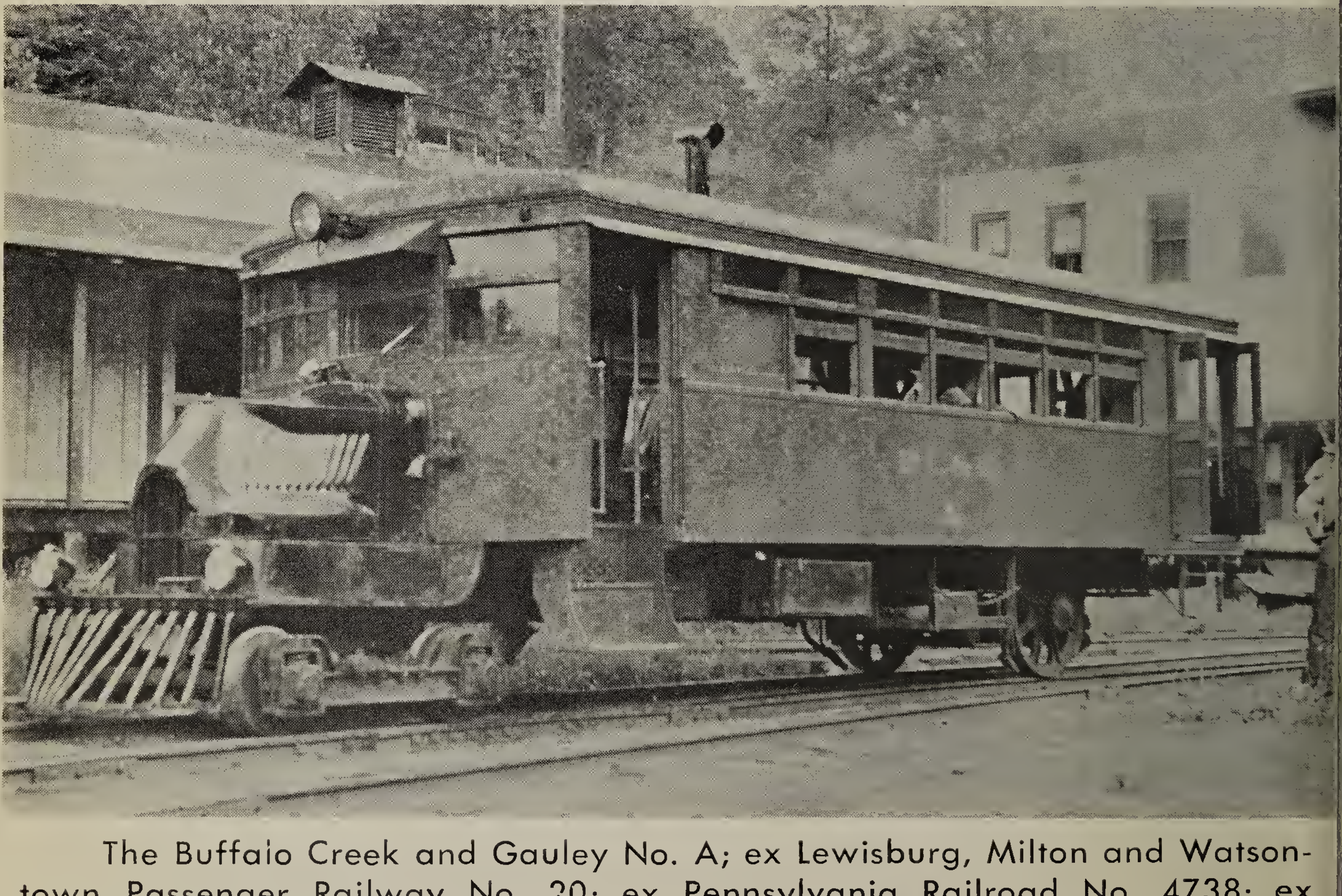
Lewisburg, Milton and Watsontown Passenger Railway No. 20, Model AC, in heavy snow at Montandon, Pennsylvania, January, 1922. The Pennsylvania Railroad, the actual owners, substituted No. 20 for a battery car operating between Montandon and Mifflinburg via Lewisburg over the Lewisburg and Tyrone branch.

TECHNICAL INFORMATION, OMNIBUS TYPE RAIL MOTOR CARS

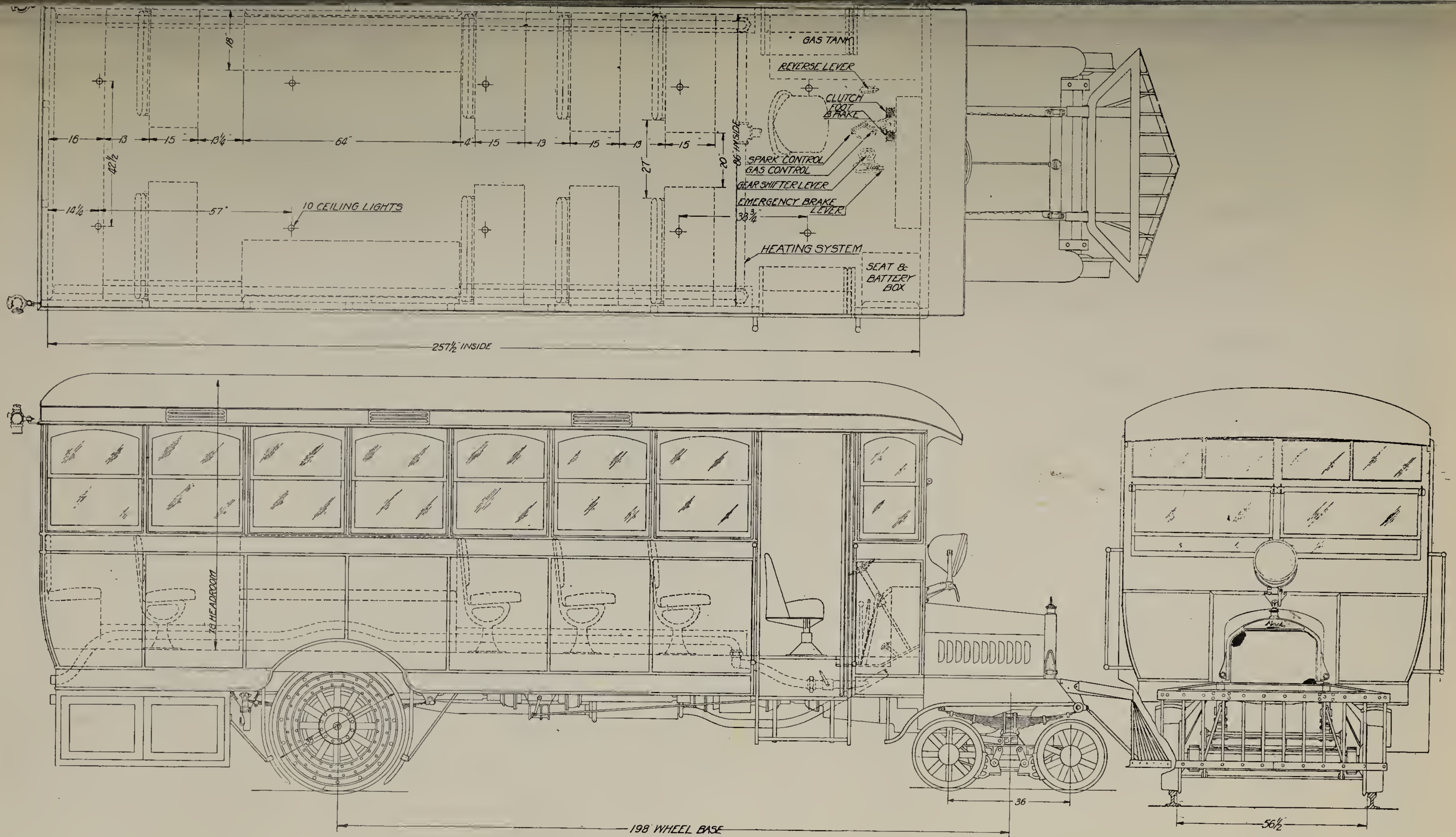
	Model ACX	**Model FCD**
Body	30′, 10¼″, steel frame, steel plate; pass. or comb.; arch roof, canvas cov.	40 ft. all steel; steel arch roof
Seating Capacity	31-35, leatherette; 1 operators	Type I: 50 mohair foam rubber walkover seats, 1 operators Type II: 50 Koroseal foam rubber walkover seats, 1 operators
Heating	Peter Smith hot air coal stove	Air blown over coils; ducts
Ventilation	4 roof ventilators; mov. louvres	Blower system; intake vents, ducts, and outlets
Frame	Pressed steel channel	Channel
Pilot	Wrought iron and pressed steel	(none)
Hood	"Bulldog" angular type	Engine set crosswise inside body
Salon	Dry hopper (optional)	(none)
Wheels	4-20″ front; 4-30″ rear	8-28″ (4 per truck)
Brakes	Str. air to all wheels; steering wheel hand brake	Wheel hand brake; engineer's valve
Lightweight	29,000 lbs.	Type I: 42,000 lbs. Type II: 48,000 lbs.
Overall Dimensions	37′, 8″ long; 9′, 6″ wide; 10′, 9¼″ high	Type I: 41′, 1¼″ long; 102″ wide; 117³⁄₁₆″ high Type II: 41′, 7″ long; 102″ wide; 117³⁄₁₆″ high
Truck cent.	23′, 7″, apart	Type I: 271¾″; Type II: 262″
Engine	Mack AC, 4 cyl.; 60-80 hp; 5″ bore; 6″ stroke	Mack 6 cyl. supercharged 200 hp diesel; 5″ bore; 6″ stroke
Oil System	Gravity and splash	Full pressure
Transmission	4 forward gears in main transmission; 4 gears in reverse trans. Proportioned to railway use	Automatic
Clutch	Single plate dry disc.	(none)
Ignition	High tension magneto	24 v. starting motor, D-R series parallel switch
Generator	Motor drive, 12 v.	Engine driven 300 v; auxiliary for lighting system
Carburetor	Zenith plain tube	Stromberg, updraft
Battery	Exide, 12 v., 6 cell, 150 amp.	2, 12 v.; 25 plate; 200 amp.
Drive	Shaft from engine to bevel gear on rear axle	DC traction motors, 55 hp., one to each axle, 2 axles per truck
Cooling System	Cowl position fan draws air and blows outward through 2 fin tubes	Cellular radiator
Fuel Cap.	20 gallons	85 gallons
Fuel Feed	Foot pedal	Foot pedal
Lights	2 headlights fr. and rear; 4 class. and marker lights; 12 interior	1,200 w. headlight at each end; electric marker lights imbedded at four corners; 16 tube fluor. int.
Controls	Left front	Type I: front center and No. 2 end right side Type II: No. 1 and No. 2 end right side
Signals	Bell and air horn	Air horn and air bell
Couplers	Standard railway (optional)	Type I: (none) Type II: 1 lightweight, No. 1 end
Sanders	Rear truck, both directions	Both trucks
Max. Speed	50 mph.	54 mph.



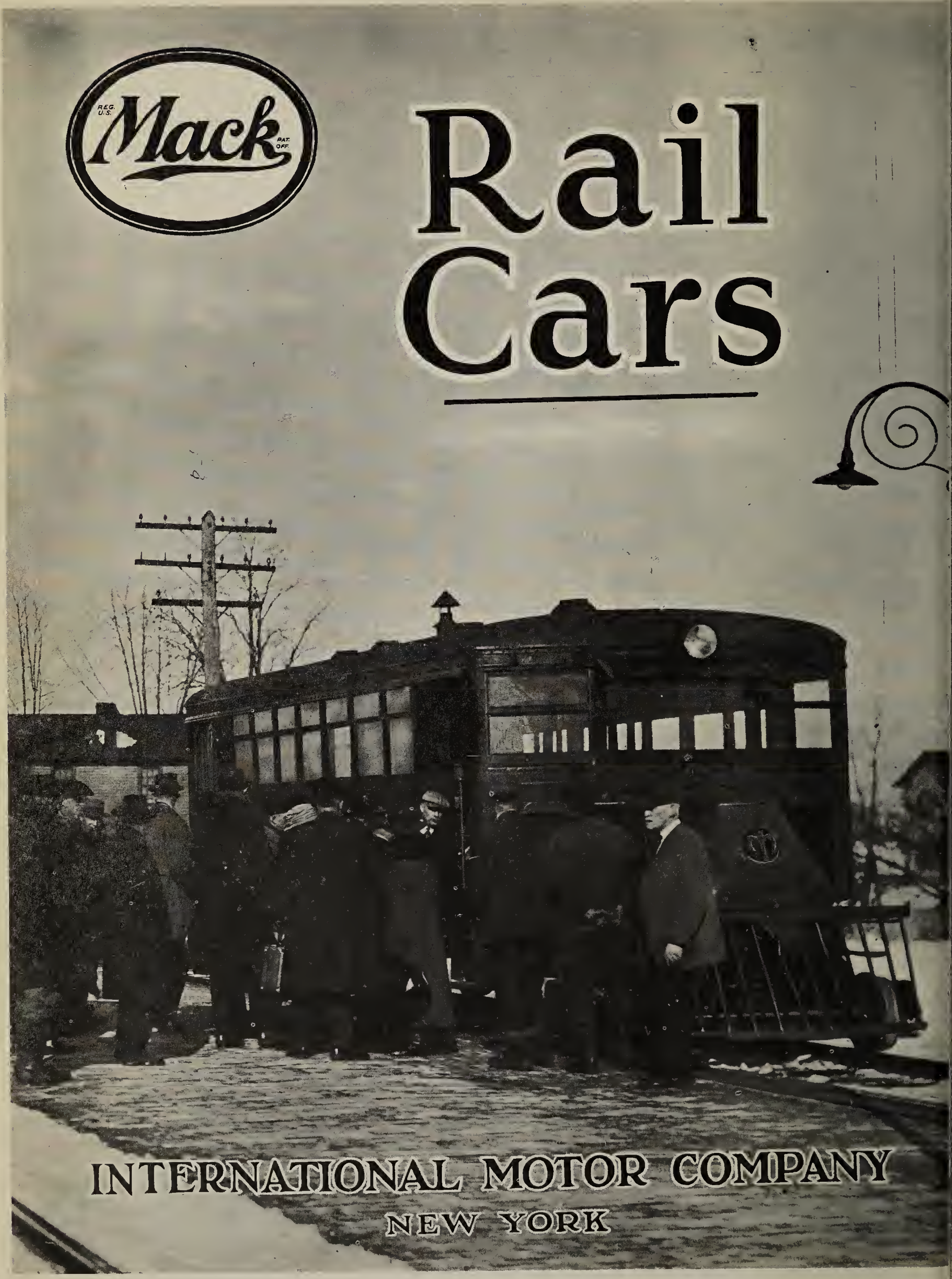
The Pennsylvania Railroad No. 4738, ex Lewisburg, Milton and Watsontown Passenger Railway No. 20, at Corbin, Kentucky, shortly after its arrival on the Artemus and Jellico Railroad, 1931.



The Buffalo Creek and Gauley No. A; ex Lewisburg, Milton and Watsontown Passenger Railway No. 20; ex Pennsylvania Railroad No. 4738; ex Artemus and Jellico No. 1; Model AC, at Swandale, West Virginia, May, 1955.



Model AB Rail Motor Car

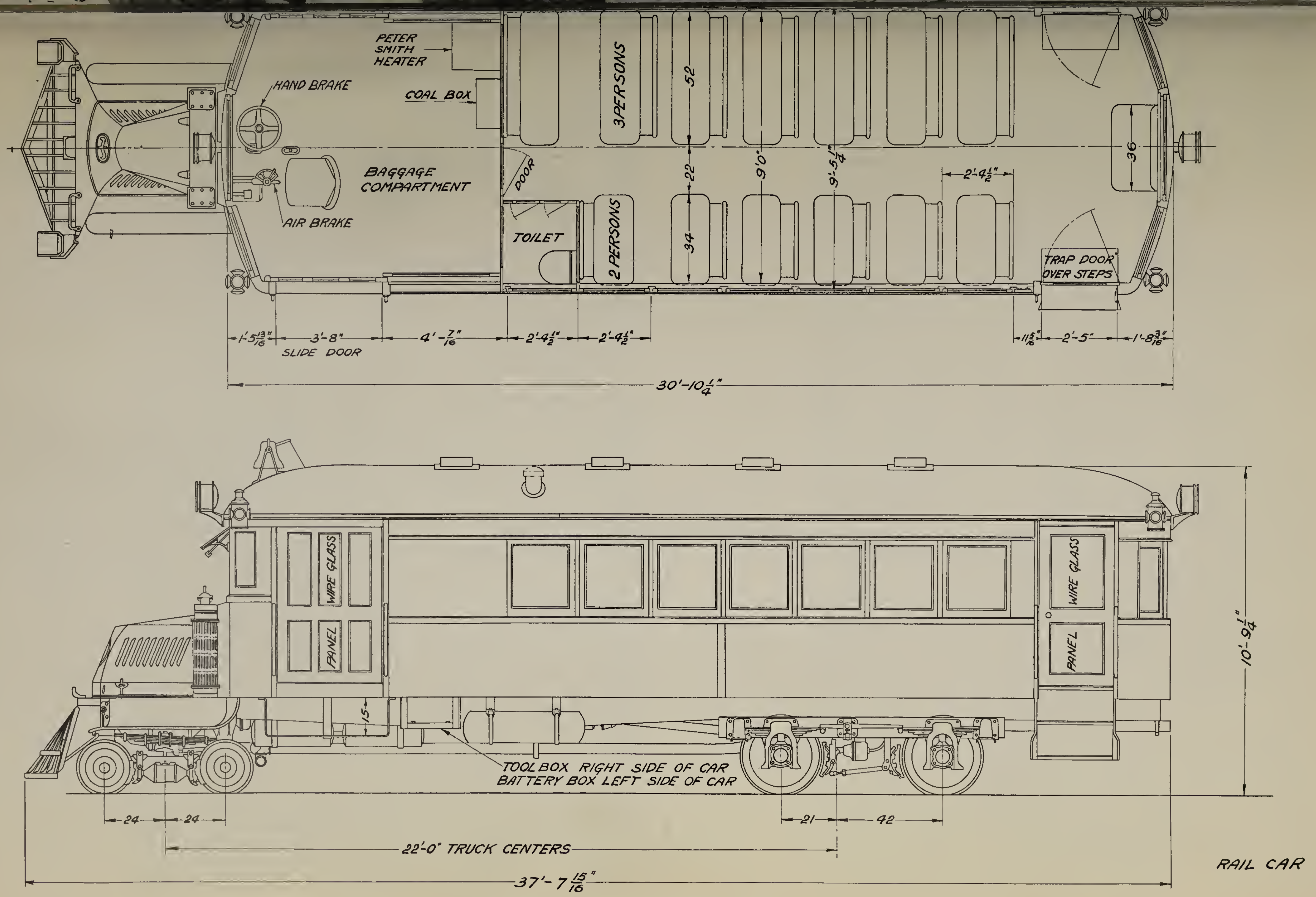


Mack REG. U.S. PAT. OFF.

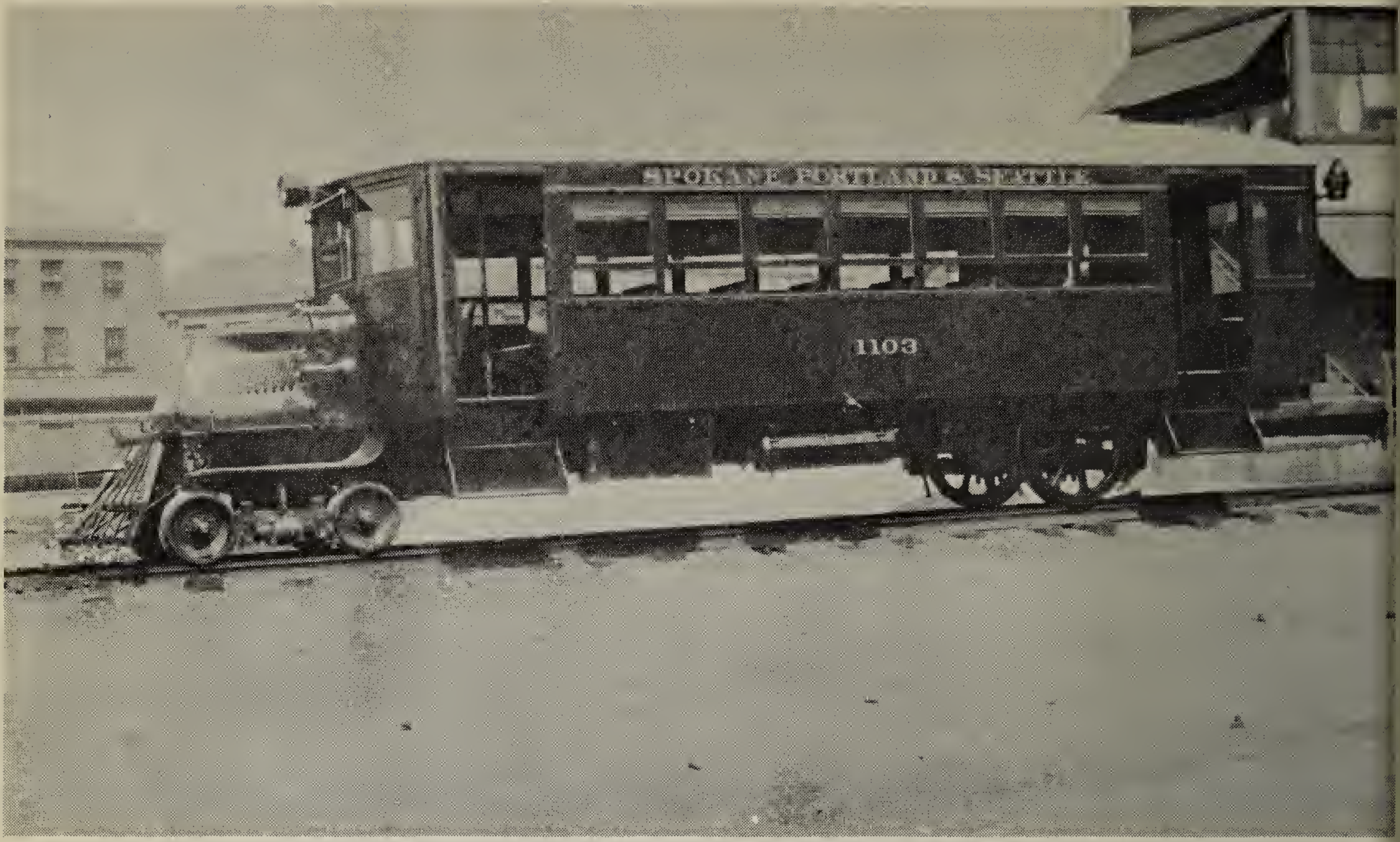
Rail Cars

INTERNATIONAL MOTOR COMPANY
NEW YORK

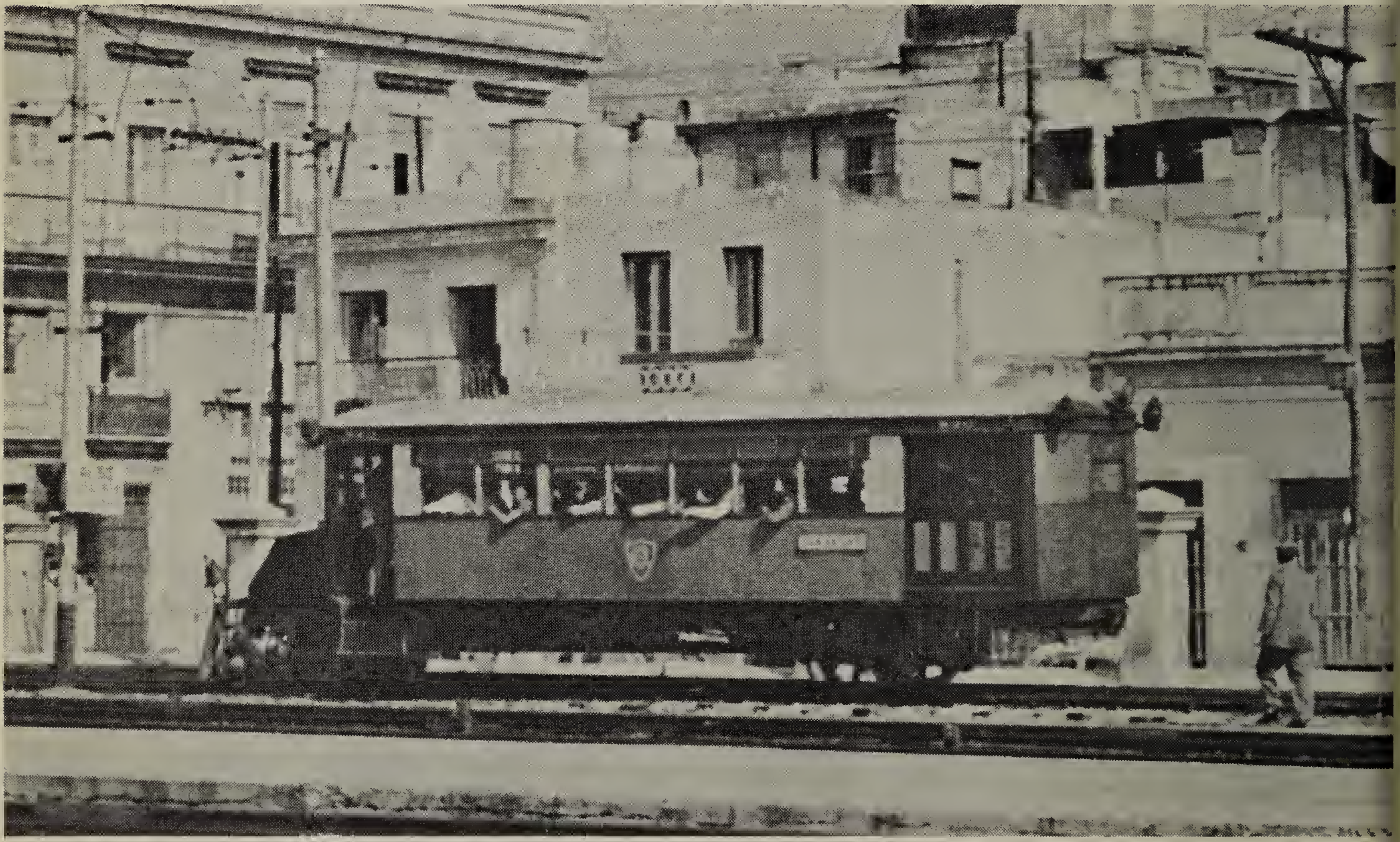
The cover of Mack's 1922 passenger rail motor car brochure showed the Lewisburg, Milton and Watsontown Passenger Railway No. 20, Model AC, loading passengers at the Montandon, Pennsylvania, station of The Pennsylvania Railroad.



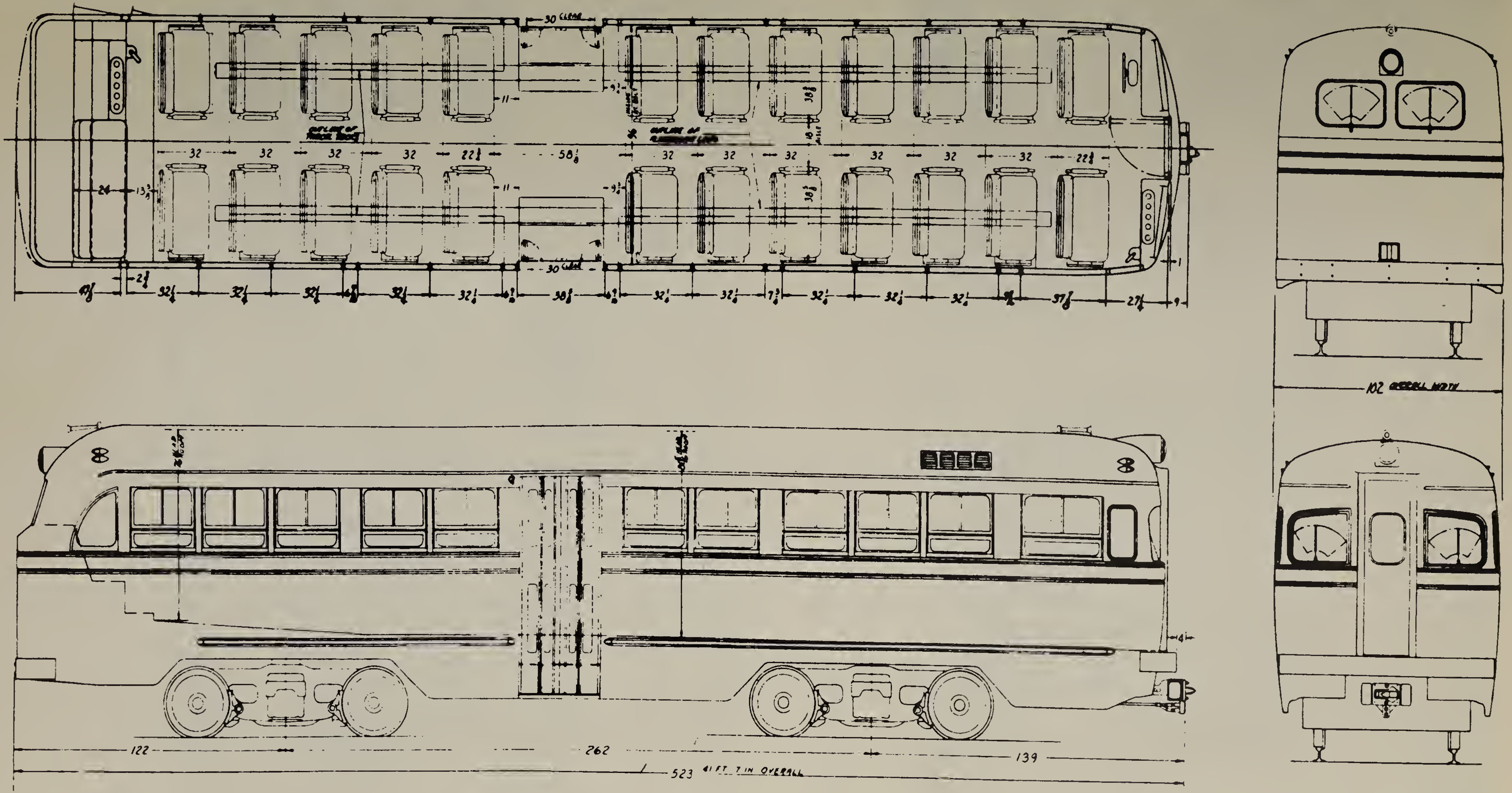
Model ACX Rail Motor Car



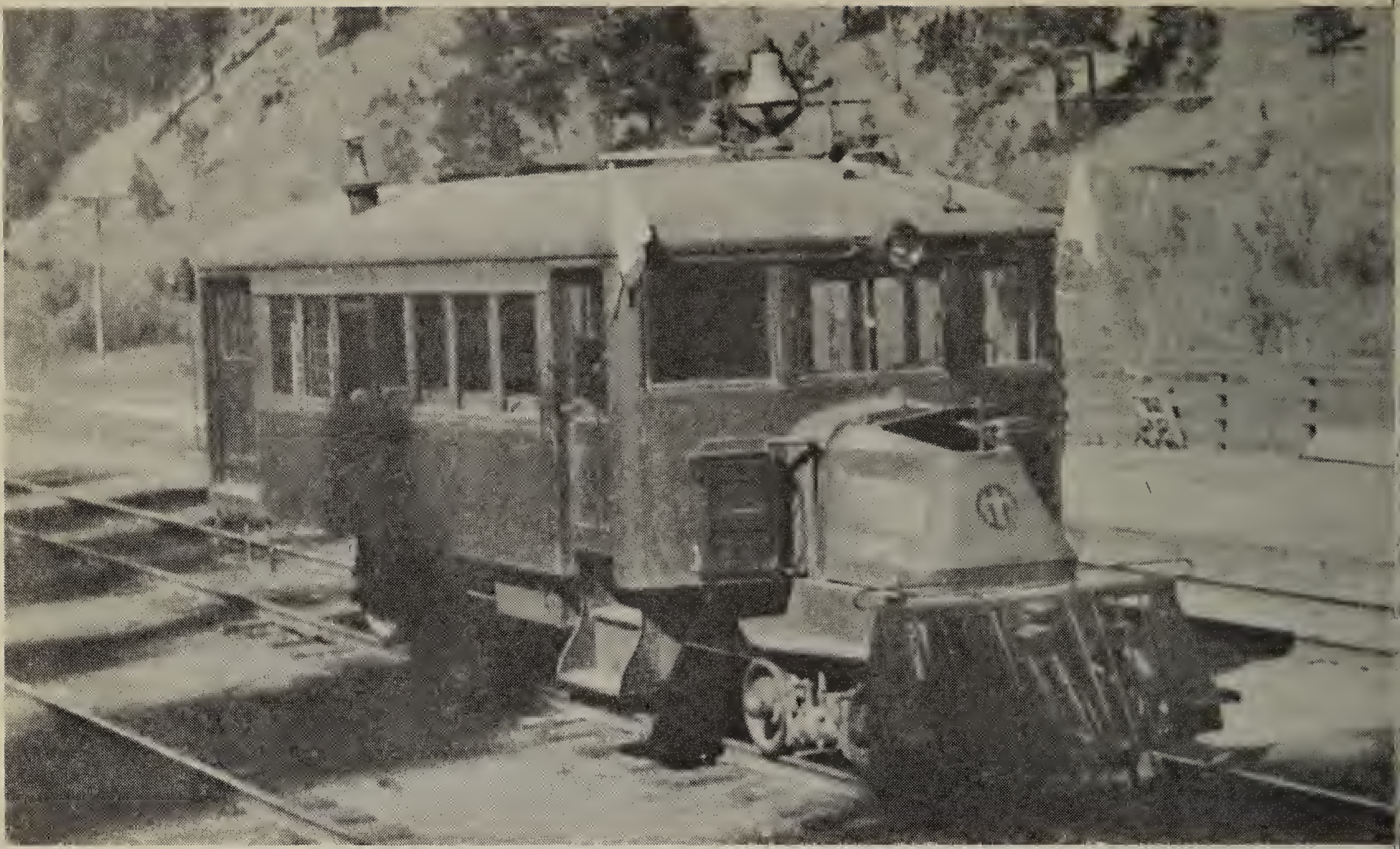
Spokane, Portland and Seattle Railway No. 1103, Model AC, setting in a St. Louis, Missouri, freight station spur, February, 1922. No. 1103 moved on its own wheels from McGuire-Cummings Car Company, Paris, Illinois, to St. Louis but completed the trip from St. Louis to Portland, Oregon, on a railroad car.



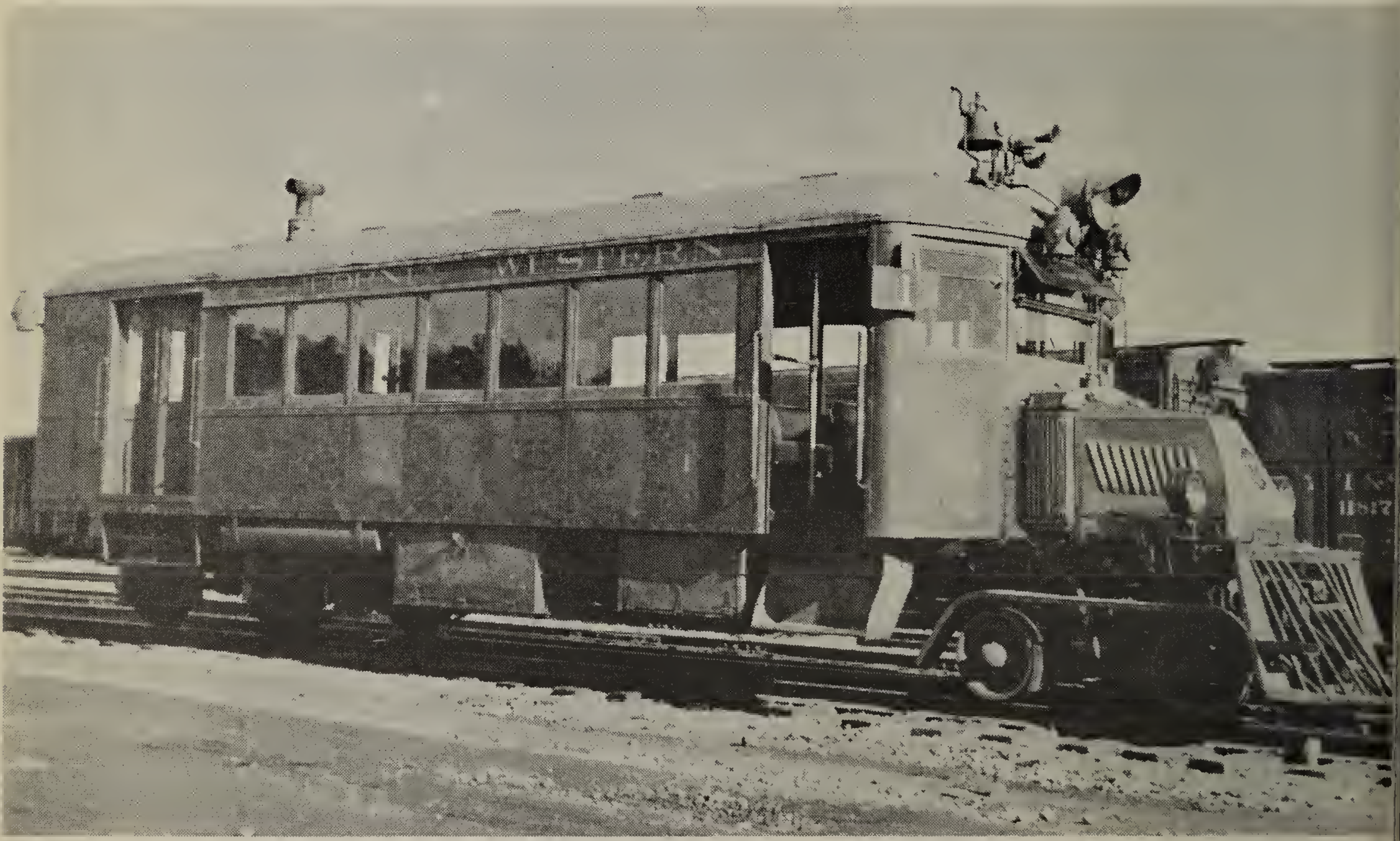
Ferrocarriles Occidentales De Cuba No. 820, Model AC, originally purchased by Havana Central Railway, enroute from Central Terminal in Havana, Cuba, to San Antonio de los Banos, June 25, 1957.



Model FCD, Type II, Rail Motor Car



Rapid City, Black Hills and Western Railroad, the leased Model AC No. 501 of the Chicago, Burlington and Quincy Railroad, at Mystic, South Dakota, circa 1930.

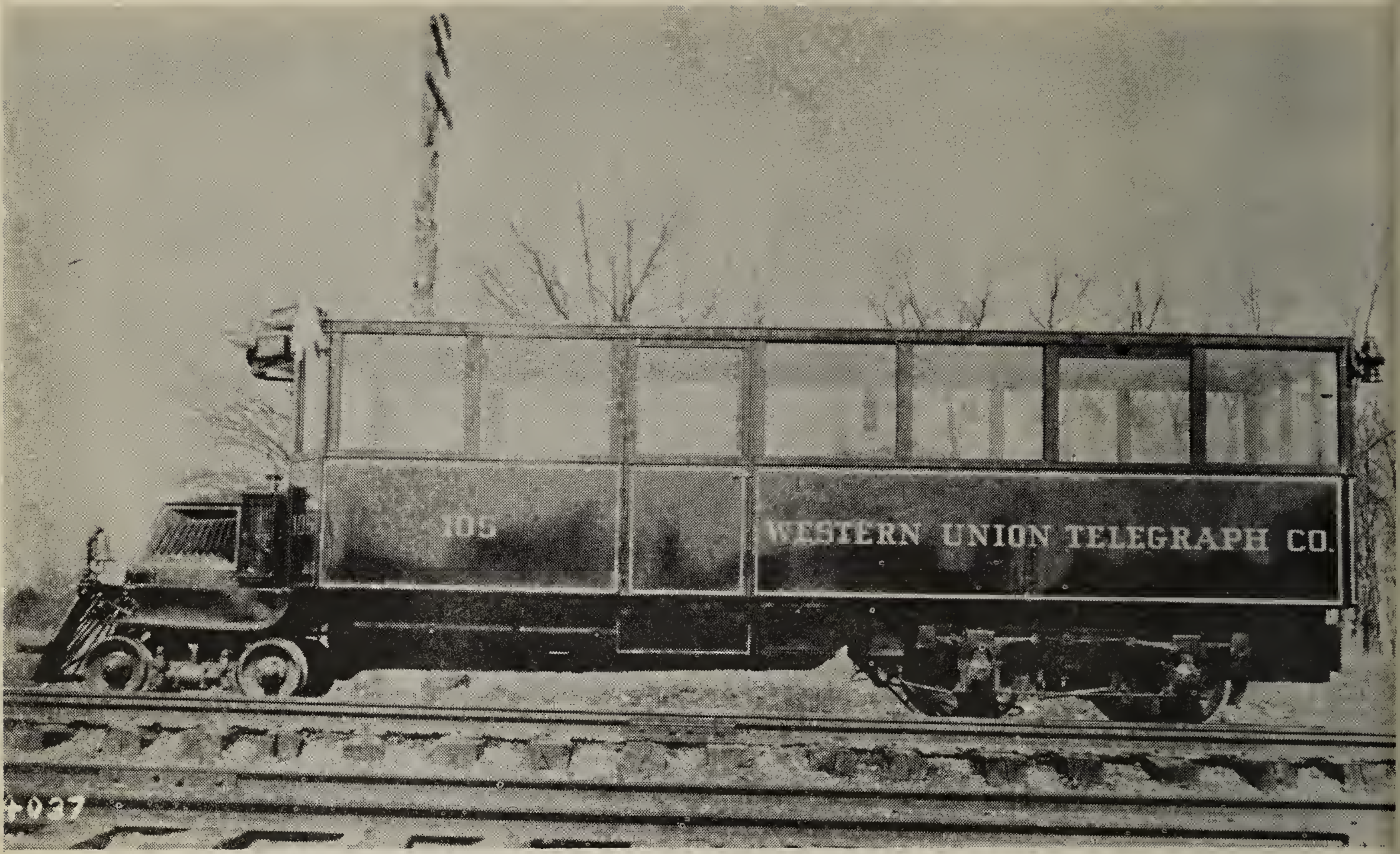


California Western Railroad No. M80, Model ACX, Willits, California, 1941.

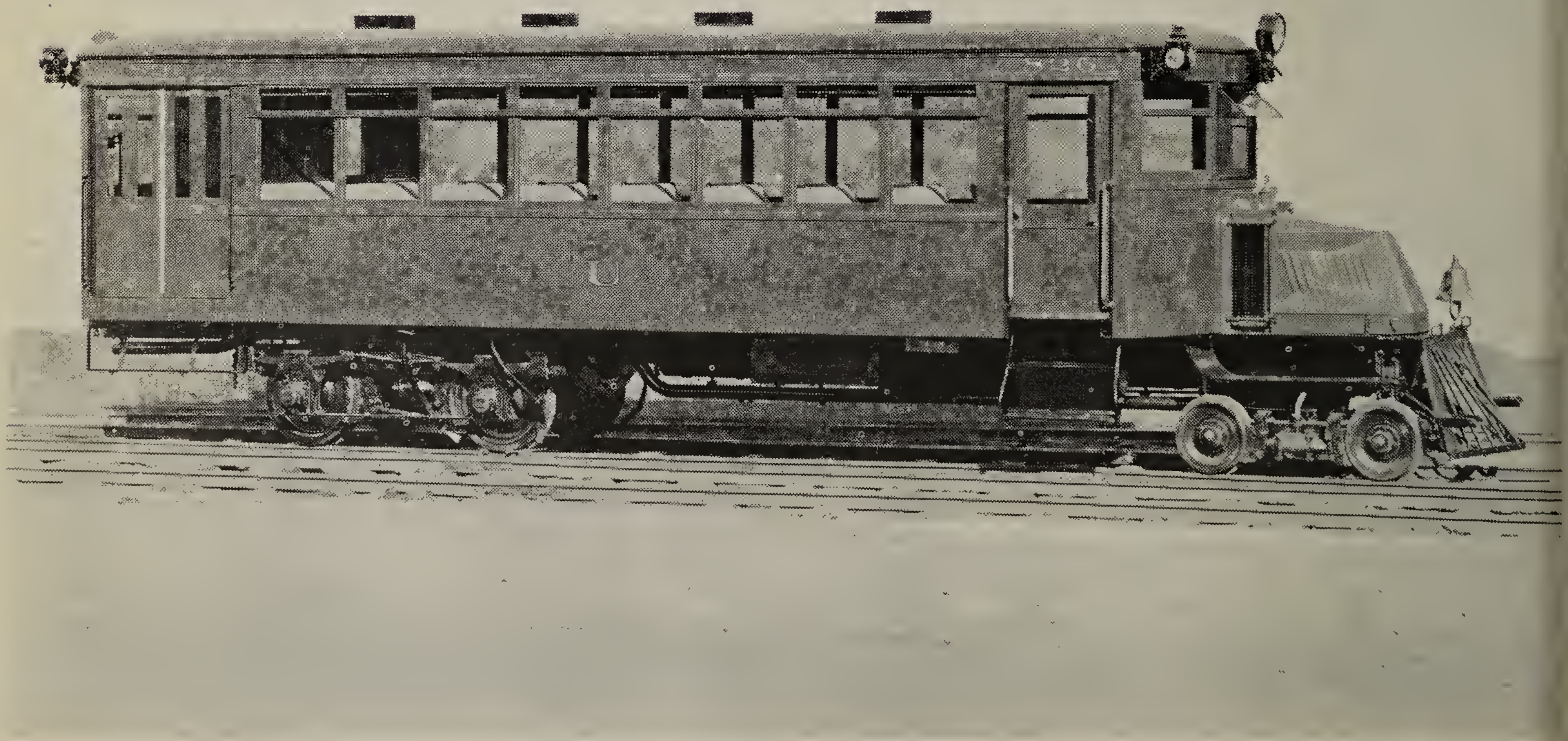
CONSTRUCTION ROSTER, OMNIBUS AND TRUCK TYPE RAIL MOTOR CARS

MODEL AB, ALLENTOWN AND PLAINFIELD PLANTS

Serial No.	Railroad or Co.	No.	Date Built	Body	Area Served	Disposition
—	Chesapeake Western	51	1920	Brill	Virginia	Wrecked (?)
70001	Winnipeg Electric	PM3, 333	10/26/20	Brill	Winnipeg area	Sold, Manitoba Hydro Elec., 1933
70002	Camp A. A. Humphrey	—	3/26/21	Brill	U. S. Army, Virginia	Sold, Bowdon Ry., 1929
70003	Stone Harbor	101	5/12/21	Brill	New Jersey	Scrapped, 1936
70004	Stone Harbor	102	5/25/21	Brill	New Jersey	Scrapped, 1936
70005	Sewell Valley	—	6/4/21	Brill	West Virginia	Sold, East Ky., Southern, 1929
70006	Aberdeen and Rock Fish	—	6/10/21	Brill	North Carolina	(no record)
70007	Narragansett Pier	9	6/11/21	Brill	Rhode Island	Scrapped, 1930
70008	Central West Virginia & Southern	9	7/19/21	Brill	West Virginia	(no record)
70009	Greenbriar and Eastern	100	7/30/21	Brill	West Virginia	Scrapped, 1/31/29
70010	New Mexico Central	101	8/12/21	Brill	New Mexico	To Atchison Topeka & Santa Fe via lease. 6/1/26
70011	Gilmore and Pittsburgh	650	10/13/21	Brill	Montana-Idaho	Scrapped, 7/3/40
70012	Spalding Miami Lumber Co.	—	12/21/21	Brill	Portland,Ore.	(no record)
70013	Pittsburgh, Lisbon & Western	51	1/25/22	Brill	Pennsylvania and Ohio	Sold, Chestnut Ridge, 7/1/24
70014	Mt. Hood	10	4/1/22	McGuire-Cummings	Oregon	To Condon, Kin. & S., (no record.)
70015	The Phoenix Utility Co.	—	4/25/22	McGuire-Cummings	Construction in U. S. A.	(no record)
70016	Willamina and Grand Ronde	—	11/28/22	McGuire-Cummings	Oregon	Sold, 1926 unidentified Oregon railway
70017	Pacific Gas and El.	—	3/31/24	(truck)	(no record)	(no record)
70019	Tela	99	12/19/22	Brill	Honduras	(no record)
70020	Bernabe S. Batista	—	12/24/24	(truck)	Cuba	(no record)
70021	Hawaii Cons. Ry.	6	4/12/28	(truck)	Hawaii	Line ab., 1947
70022	Colombian Na. & Ry.	—	12/28/28	(truck)	Colombia	(no record)
70023	Tropical Oil Co.	20	6/21/30	Mack	Colombia	Sold, 1951, Colombia govt.
70024	Winnipeg Electric Co.	—	6/11/30	(truck)	Canada	Sold, Manitoba Hydro Elec., '33
70024A	Guantanamo and Western	—	1/15/31	(truck)	Cuba	(no record)
70025	Guantanamo and Western	—	1/27/31	(truck)	Cuba	(no record)
70026	Guantanamo and Western	—	1/15/31	(truck)	Cuba	(no record)
70027	Guantanamo and Western	—	1/27/31	(truck)	Cuba	(no record)
70028	Guantanamo and Western	—	1/27/31	(truck)	Cuba	(no record)



Western Union Telegraph Company inspection car No. 105, Model ACX, circa 1926. No. 105 traversed railroads of the United States and Canada. The high windows offered an unobstructed view of the telegraph wires from a seated position.



Ferrocarriles Occidentales De Cuba No. 826, Model ACX, purchased by the United Railways of Havana, at Osgood-Bradley Car Company, Worcester Massachusetts, September, 1925.

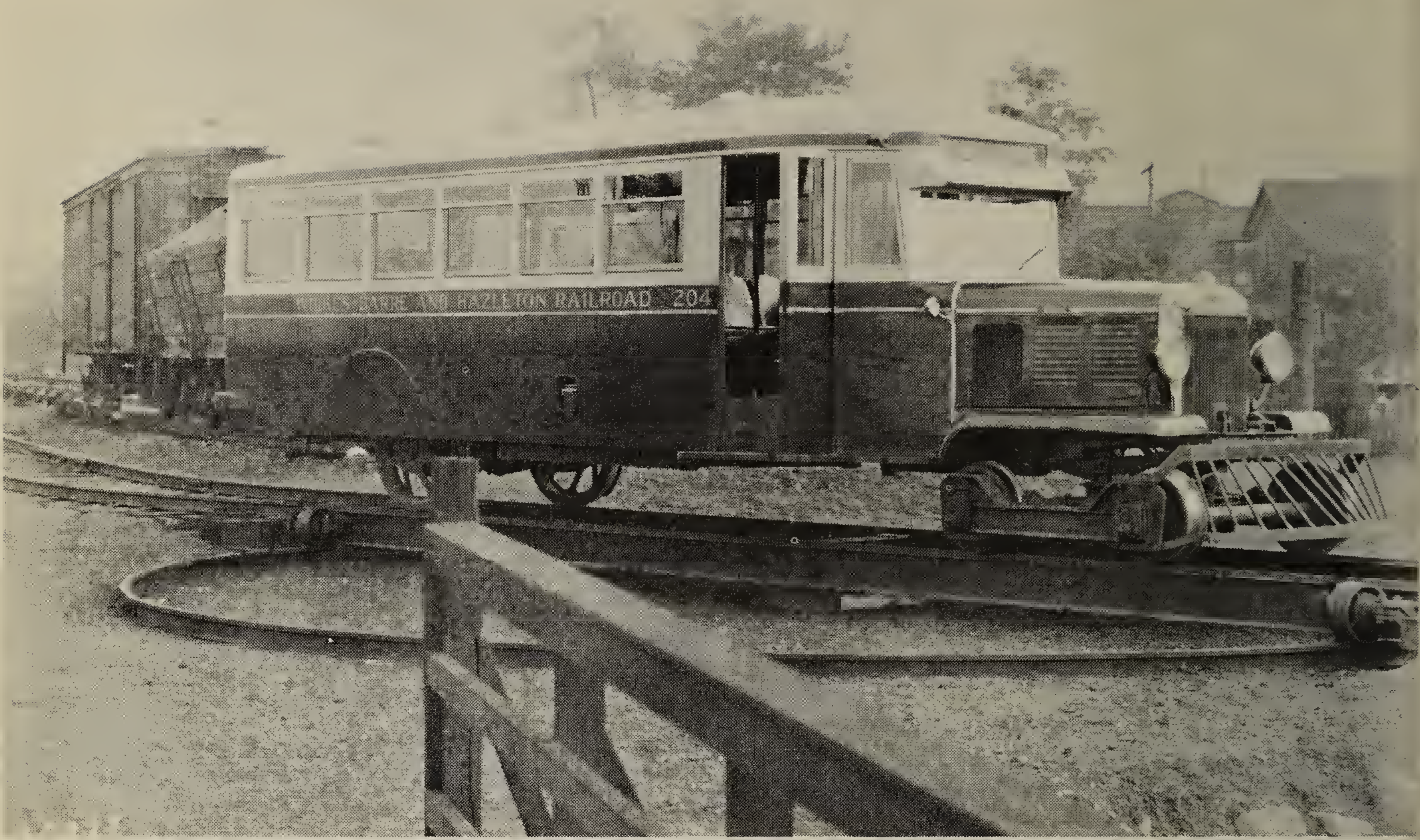
CONSTRUCTION ROSTER, OMNIBUS AND TRUCK TYPE RAIL MOTOR CARS

MODEL AB, RESALE TRANSACTIONS

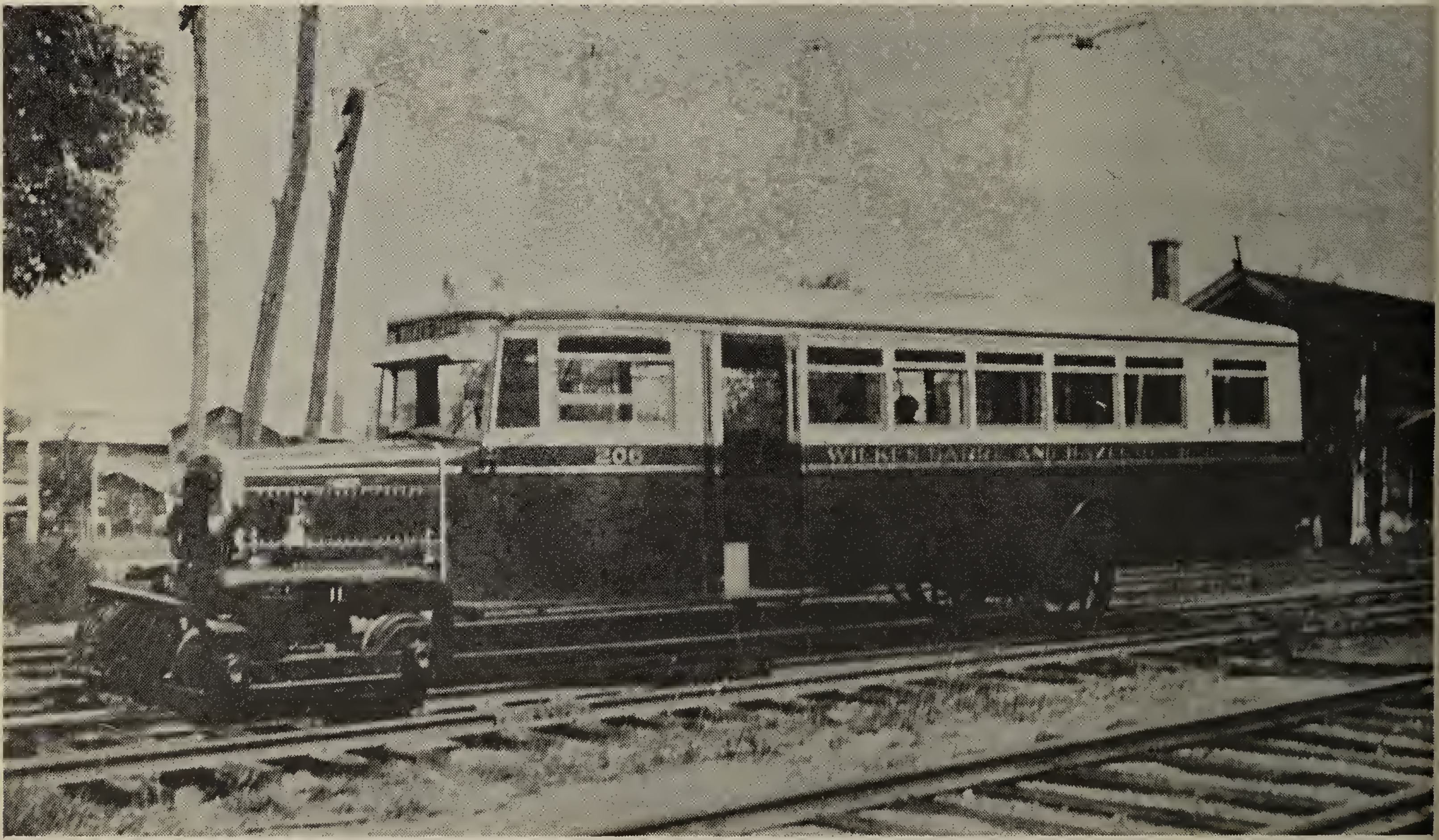
Serial No.	Railroad	No.	Former Owner	Area Served	Disposition
70001	Manitoba Hydro Electric	PM3	From Winnipeg Electric Co., 1933, Ex No. PM3	Various hydro-electric sites	In service, Kelsey, 1/1/59
70002	Bowdon Railway Co.	—	From Camp A. A. Humphrey, 1929	Georgia	(no record)
70005	East Kentucky Southern	215	From Sewell Valley, 1929	Kentucky	Scrapped, 1933
70010	The Atchinson, Topeka & Santa Fe	137	From New Mexico Central, merger, 1926	Albuquerque, utility	Sold, circa 1929, unidentified southwest lumber firm
70013	Chestnut Ridge	51	From Pittsburgh, Lisbon & Western July, 1924.. in service, 2/4/25	Palmerton to Kunkletown, Penna.	In maintenance of way service, 1/1/59
70014	Condon, Kinzua & Southern	—	From Mt. Hood RR, date unknown	Oregon	(no record)
70023	Colombian Nat. Ry. System	—	From Tropical Oil in 1951 via Empresa Colombiana de Petroleos	Puerto Wilches-Bucaramanga sector	In service, 1/1/59
70024	Manitoba Hydro Electric	—	From Winnipeg Electric, 1933	Hydro-electric projects	In service, Pointe du Bois 1/1/59

UNCLASSIFIED, OMNIBUS, TROLLEY, AND TRUCK TYPE MOTOR CARS

Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
—	Uintah	—	1905	Mack	Colorado	(no record)
—	Silverton Northern	Mary M	August 22, 1905	Mack	Colorado	(no record)
—	Trolley Car Spanish identifications	—	circa 1912	Trolley	(no record)	(no record)
—	Wilkes-Barre and Hazleton	204	Aug. 1932	Mack	Pennsylvania anthracite area	Sold, Lehigh Valley Transit,
—	Wilkes-Barre and Hazleton	206	Aug. 1932	Mack	Pennsylvania anthracite area	1933. Became LVT buses Nos. 125, 126, and 127.
—	Wilkes-Barre and Hazleton	—	Aug. 1932	Mack	Pennsylvania anthracite area	Scrapped 1939.
BX888	Patino	—	July 1937	Mack	Bolivian tin mines	(no record)



Wilkes-Barre and Hazleton Railroad No. 204 at Wilkes-Barre, Pennsylvania, in 1932. No. 204 and two other rail buses, replacing large double truck interurban cars, operated between Wilkes-Barre and Hazle Park, Pennsylvania, for approximately one year. WB&H abandoned operations on September 17, 1933.



Wilkes-Barre and Hazleton Railroad No. 206, a larger model than No. 204, at Hazle Park during tests in September, 1932. Left side doorway permitted loading and unloading from either side of the single track system.

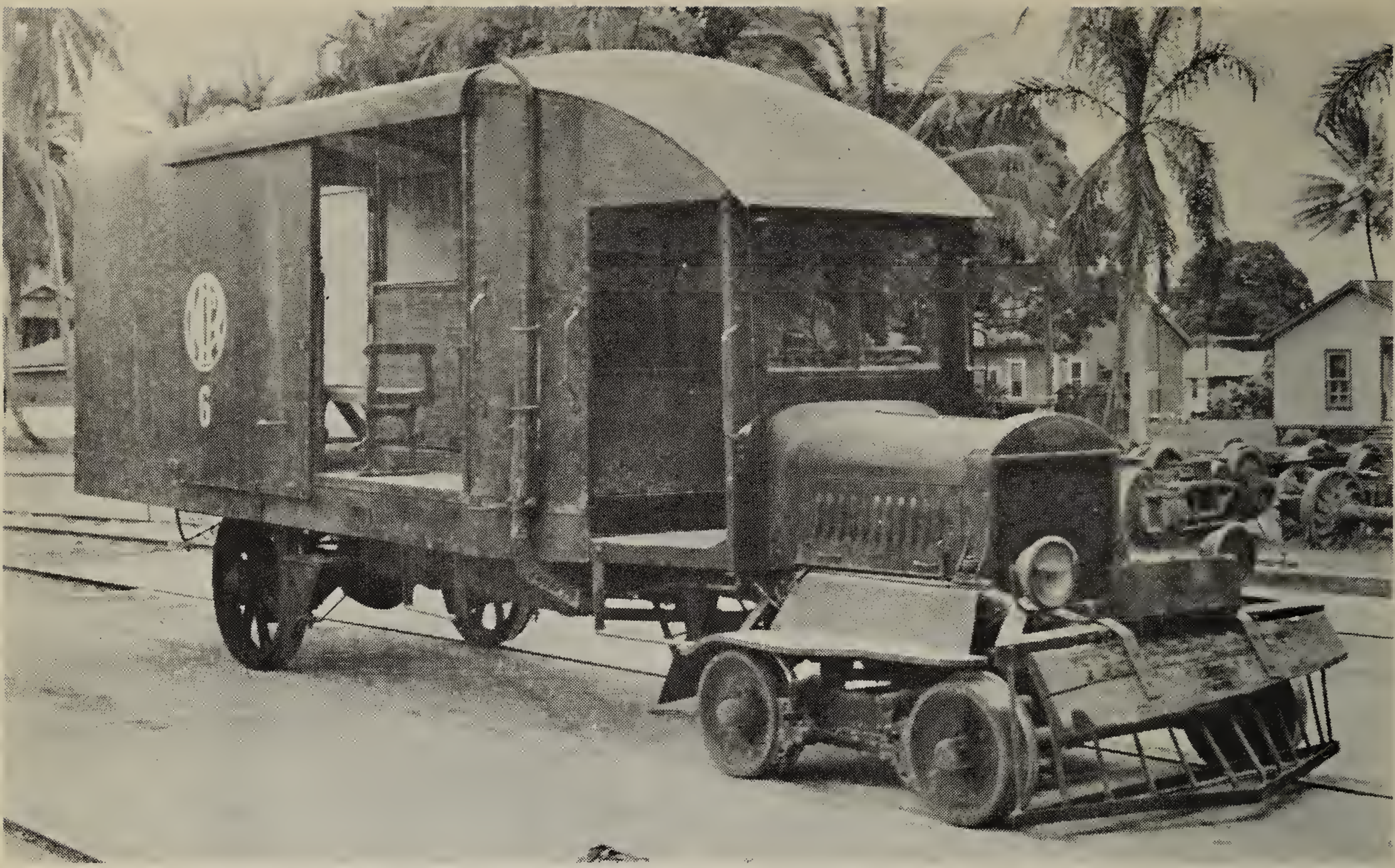
CONSTRUCTION ROSTER, OMNIBUS AND TRUCK TYPE RAIL MOTOR CARS

MODEL AC, ALLENTOWN PLANT

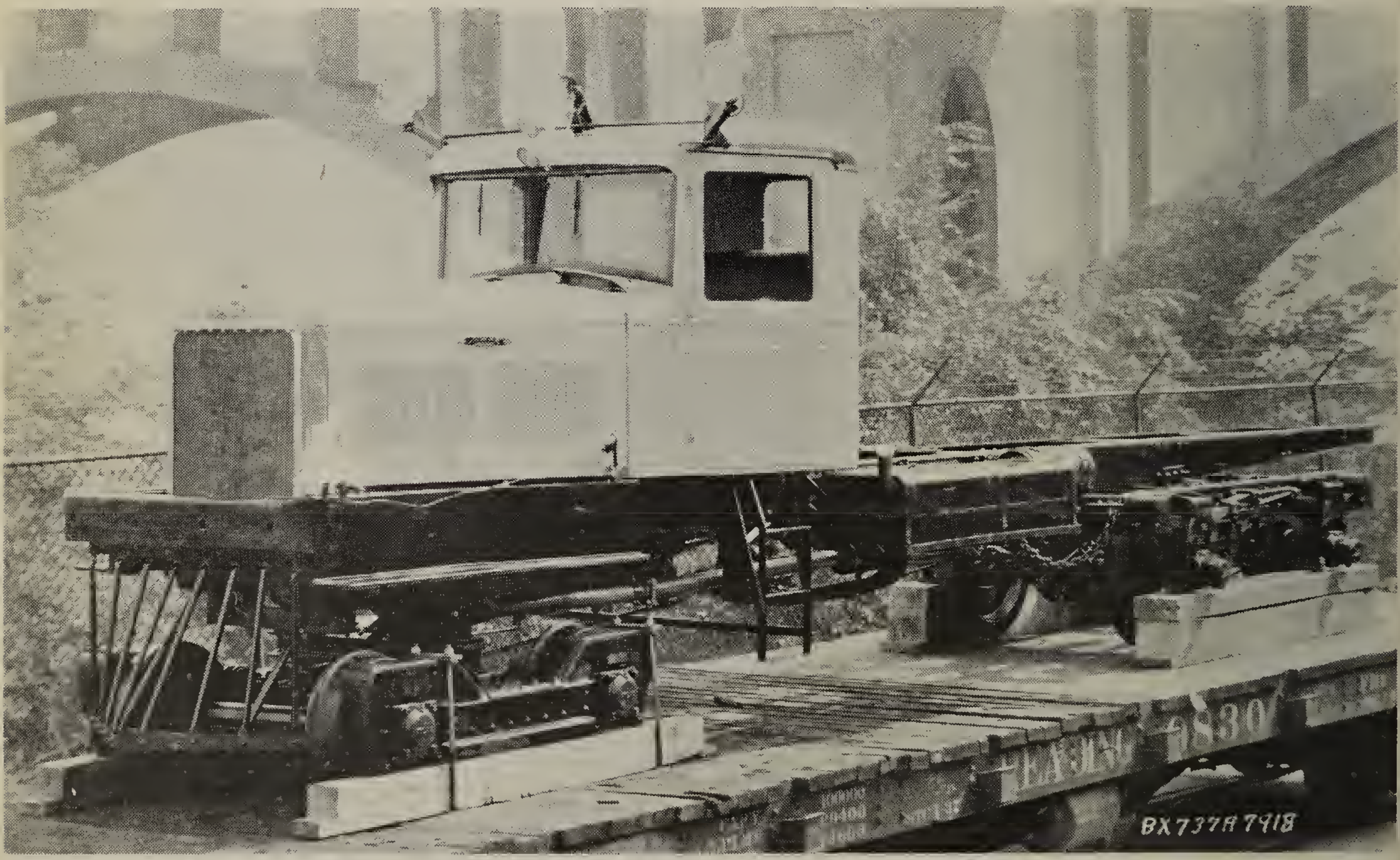
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
60001	Narragansett Pier	10	6/22/22	Brill	Rhode Island	Scrapped, 1930
60002	New York, New Haven & Hartford	9001	11/17/21	Osgood-Bradley	New England, New York	Scrapped, 1939
60003	New York, New Haven & Hartford	9000	11/25/21	Osgood-Bradley	New England, New York	Scrapped, 1939
60004	New York, New Haven & Hartford	9002	11/28/21	Osgood-Bradley	New England, New York	Scrapped, 1939
60005	Lewisburg, Milton and Watsontown Passenger Ry.	20	11/30/21	Brill	Montandon to Mifflinburg, Pa. via Lewisburg	Became Pennsylvania RR No. 4738, 11/30/28
60006	Great Northern	2305	2/23/22	McGuire-Cummings	Washington and Montana	Scrapped, 1937
60007	Spokane, Portland & Seattle	1103	2/3/22	McGuire-Cummings	Washington	Sold, Southeast Lumber, 8/9/34
60008	Northern Pacific	B1	4/22/22	McGuire-Cummings	North Dakota	Sold, Winnipeg Hydro Elec., January, 1929
60009	Chicago, Burlington & Quincy	501	4/29/22	McGuire-Cummings	North Dakota	Leased, Rapid City, Black Hills & Western 1928. Scrapped June, 1934
60010	Havana Central (FF. CC. Occidentales de Cuba)	820	10/20/22	McGuire-Cummings	Havana area	To Covadonga Ry., 1958
60012	Havana Central (FF. CC. Occidentales de Cuba)	821	12/21/22	McGuire-Cummings	Havana area	In service, 4/1/59
60013	Havana Central (FF. CC. Occidentales de Cuba)	822	9/10/23	Brill	Havana area	Scrapped (no record)

MODEL AC, RESALE TRANSACTIONS

Serial No.	Railroad	No.	Former Owner	Area Served	Disposition
60005	The Pennsylvania	4738	From Lewisburg, Milton & Watsontown, Pass. Ry. 11/30/28.	Pennsylvania	Sold, Artemus & Jellico, 1/14/31
60005	Artemus & Jellico	1	From The Pennsylvania RR 1/14/31.	Kentucky	Sold, Buffalo Creek & Gauley, 1941
60005	Buffalo Creek & Gauley	"A"	From Artemus and Jellico, 1941.	West Virginia	In service, Jan. 1, 1959
60007	Southeast Lumber	—	From Spokane, Portland & Seattle, 8/9/34.	Oregon lumber camps	Scrapped, circa, 1940
60008	Winnipeg Hydro Elec.	B1	From Northern Pacific 1929.	Lac du Bonnet, Pointe du Bois	In service, 1/1/59
60009	Rapid City, Black Hills & Western	—	From Chicago, Burlington & Quincy, 1928.	North Dakota	Scrapped by CB&Q, 1934
60010	Covadonga Ry.	820	From Ferrocarriles Occidentales de Cuba, 1958, (Havana Central)	Cuba	In service, April 1, 1959



Hawaii Consolidated Railway No. 6, Model AB rail truck, at Hilo yard, June, 1946.

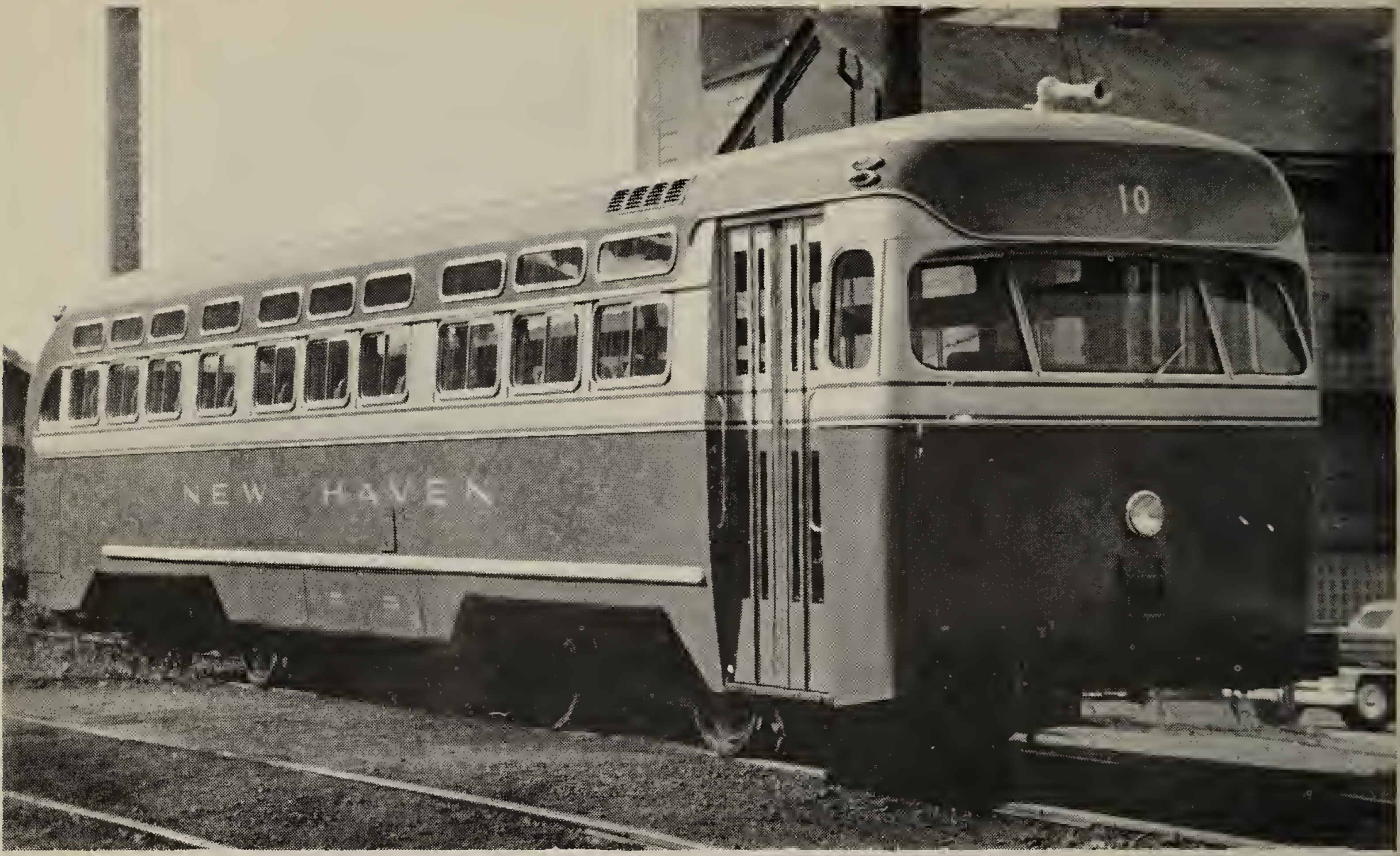


Patino rail truck, Model BX, on railroad car in Mack's Allentown Plant enroute to Bolivia, July 15, 1937.

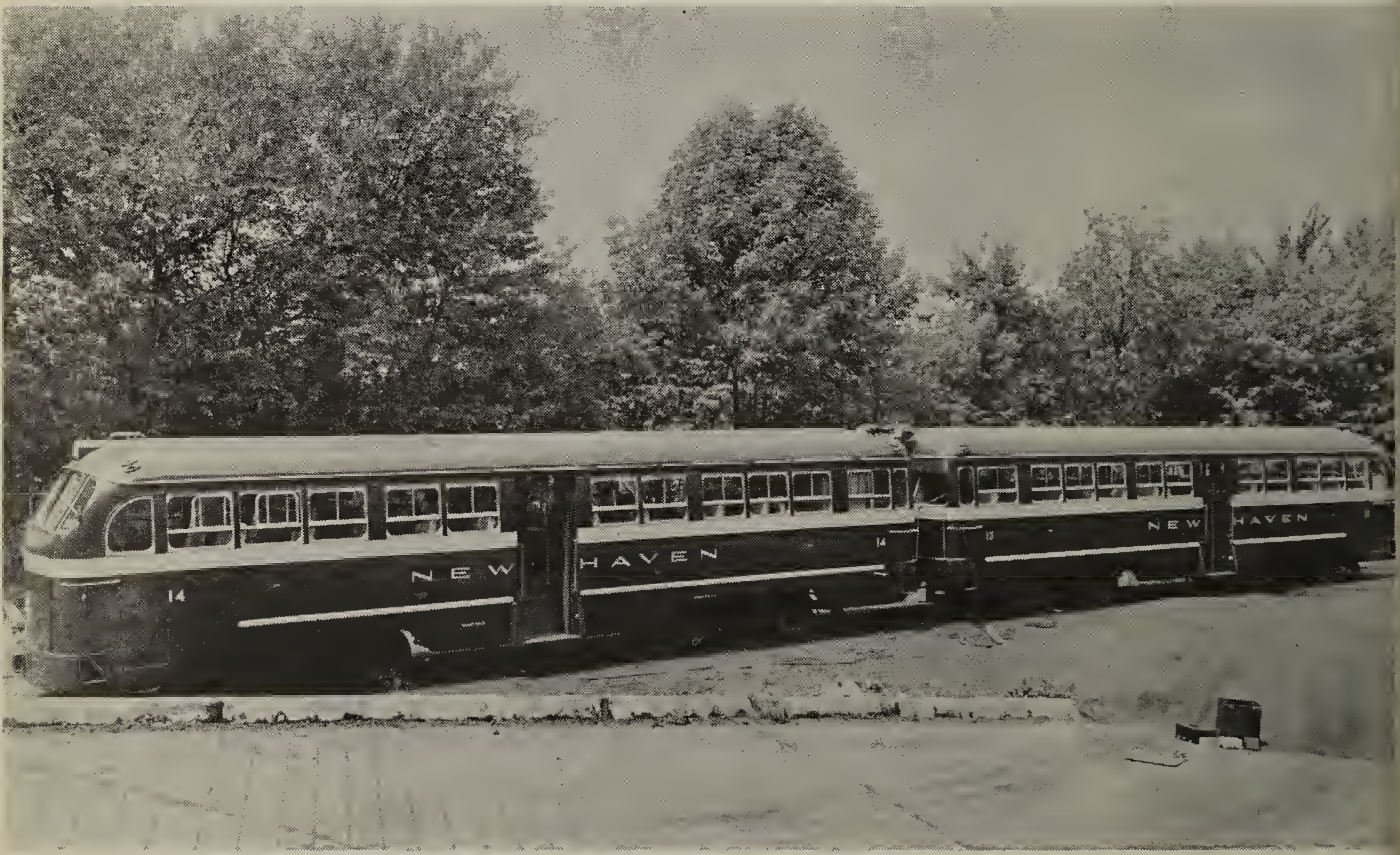
CONSTRUCTION ROSTER, OMNIBUS AND TRUCK TYPE RAIL MOTOR CARS

MODEL ACX, ALLENTOWN AND PLAINFIELD PLANTS

Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
60011	Chicago, Rock Island & Pacific	9095	11/14/22 Sold 12/31/24	McGuire-Cummings	Illinois	Scrapped, 1/25/40
60014	California Western	M80	10/19/23 Sold 12/30/25	McGuire-Cummings	California	In service, 1/1/59
60015	Western Union Telegraph	105	9/29/25	Fitz, Gibbons & Crisp	All railroads	(no record)
60022	United Railways of Havana (FF. CC. Occidentales de Cuba)	823	7/23/25	Osgood-Bradley	Havana area	Scrapped, (no record)
60023	United Railways of Havana (FF. CC. Occidentales de Cuba)	824	9/16/25	Osgood-Bradley	Havana area	In service, 1/1/59
60024	United Railways of Havana (FF. CC. Occidentales de Cuba)	825	9/26/25	Osgood-Bradley	Havana area	Scrapped, (no record)
60025	United Railways of Havana (FF. CC. Occidentales de Cuba)	826	9/29/25	Osgood-Bradley	Havana area	Scrapped, (no record)
60026	United Railways of Havana (FF. CC. Occidentales de Cuba)	827	10/6/25	Osgood-Bradley	Havana area	In service, 1/1/59
60027	United Railways of Havana (FF. CC. Occidentales de Cuba)	828	10/15/25	Osgood-Bradley	Havana area	In service, 1/1/59
70029	United Railways of Havana (FF. CC. Occidentales de Cuba)	811	5/5/32	Company Shops	Havana area	Sold, 1947, (no record)



The New York, New Haven and Hartford Railroad No. 10, Model FCD, Type I, at Mack's Allentown Plant, 1951.



The New York, New Haven and Hartford Railroad Nos. 14 and 13, Model FCD, Type II, in tandem at Mack's Allentown Plant, August 11, 1954, after completing test trip over Reading Company main line trackage between Allentown and Alburtis.

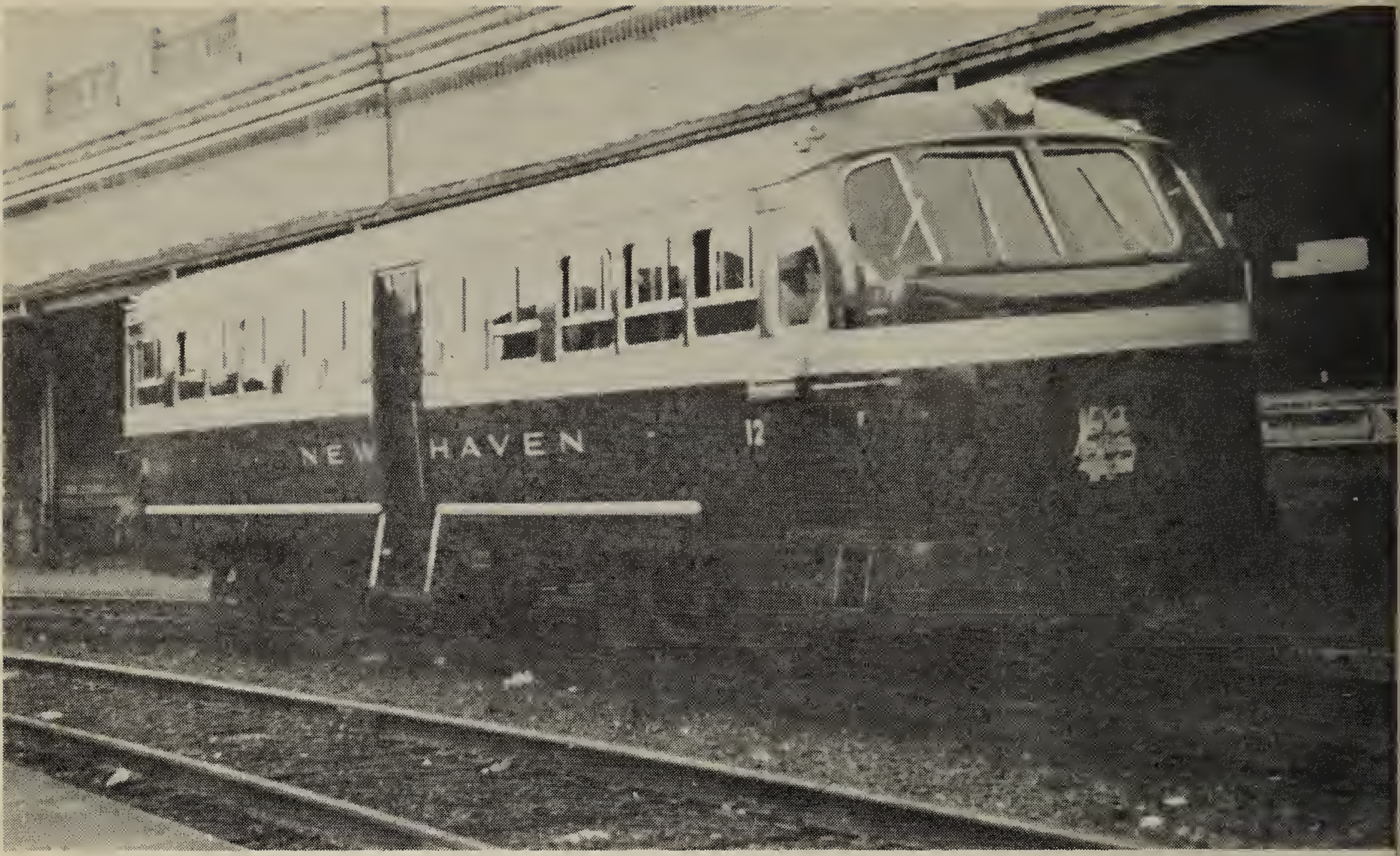
CONSTRUCTION ROSTER, OMNIBUS AND TRUCK TYPE RAIL MOTOR CARS

MODEL FCD, TYPES I AND II, ALLENTOWN PLANT

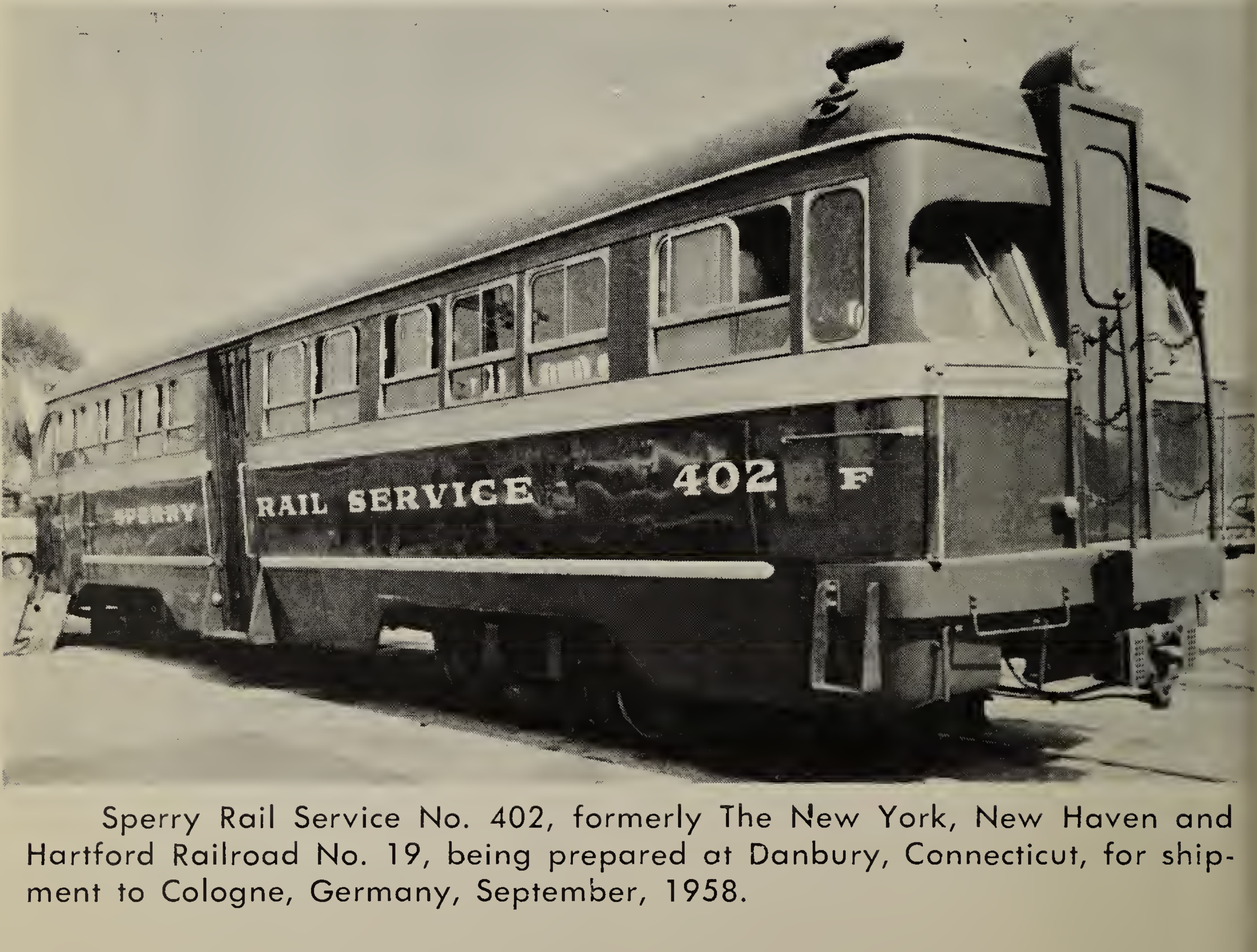
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
FCD 1001	New York, New Haven & Hartford, Type I	10	1951	Mack	Massachusetts	In storage, Jan. 1, 1959
1002	New York, New Haven & Hartford, Type II	11	7/30/54	Mack	(storage)	In storage, Jan. 1, 1959
1003	New York, New Haven & Hartford, Type II	12	7/30/54	Mack	Massachusetts, Rhode Island	In storage, Jan. 1, 1959
1004	New York, New Haven & Hartford, Type II	13	8/12/54	Mack	(storage)	In storage, Jan. 1, 1959
1005	New York, New Haven & Hartford, Type II	14	8/13/54	Mack	(storage)	In storage, Jan. 1, 1959
1006	New York, New Haven & Hartford, Type II	15	8/26/54	Mack	(storage)	In storage, Jan. 1, 1959
1007	New York, New Haven & Hartford, Type II	16	8/26/54	Mack	(storage)	In storage, Jan. 1, 1959
1008	New York, New Haven & Hartford, Type II	17	8/27/54	Mack	(storage)	In storage, Jan. 1, 1959
1009	New York, New Haven & Hartford, Type II	18	8/26/54	Mack	(storage)	Sold, Sperry Rail service, Sept., 1958
1010	New York, New Haven & Hartford, Type II	19	8/27/54	Mack	(storage)	Sold, Sperry Rail service, July, 1958

MODEL FCD, RESALE TRANSACTIONS

Serial No.	Railroad	No.	Former Owner	Area Served	Disposition
FCD 1010	Sperry Rail Service	402	From New York, New Haven & Hartford, July, 1958. Ex No. 19	New York Transit Authority Subway	In service, Summer, 1959
1009	Sperry Rail Service	403	From New York, New Haven & Hartford, Sept.,1958. Ex No. 18	All Railroads	Scheduled for service, 1960



The New York, New Haven and Hartford Railroad No. 12, Model FCD, Type II, at Worcester, Massachusetts, September 8, 1956, maintaining "Little Shoreliner" schedules.



Sperry Rail Service No. 402, formerly The New York, New Haven and Hartford Railroad No. 19, being prepared at Danbury, Connecticut, for shipment to Cologne, Germany, September, 1958.

RAILROAD COACH TYPE RAIL MOTOR CARS

Gasoline, 1923-1925

Railroads in 1922, expressed an interest in fifty foot lightweight double truck railroad coach type passenger and combination self-propelled rail motor cars which carried more passengers and baggage than omnibus types and efficiently operated extended local, mixed train, branch and suburban schedules. Car manufacturers readily produced various models, and railroads, not having determined the most satisfactory propulsion system, requested either a gasoline engine, battery, gasoline-electric, oil-electric, or hydraulic motive power unit installation.

Mack and The J. G. Brill Company, Philadelphia, Pennsylvania, collaborating, built, in 1923, a Model AH fifty foot double truck arch roof gasoline engine steel combination rail car identified as demonstrator No. 801. Allentown Plant assembled both railway trucks and set a six cylinder gasoline engine in the forward truck. Brill fabricated the body, placed it on the trucks shipped from Allentown, and installed other operational equipment. No. 801 eventually arrived at the Allentown Plant in a freight train consist.

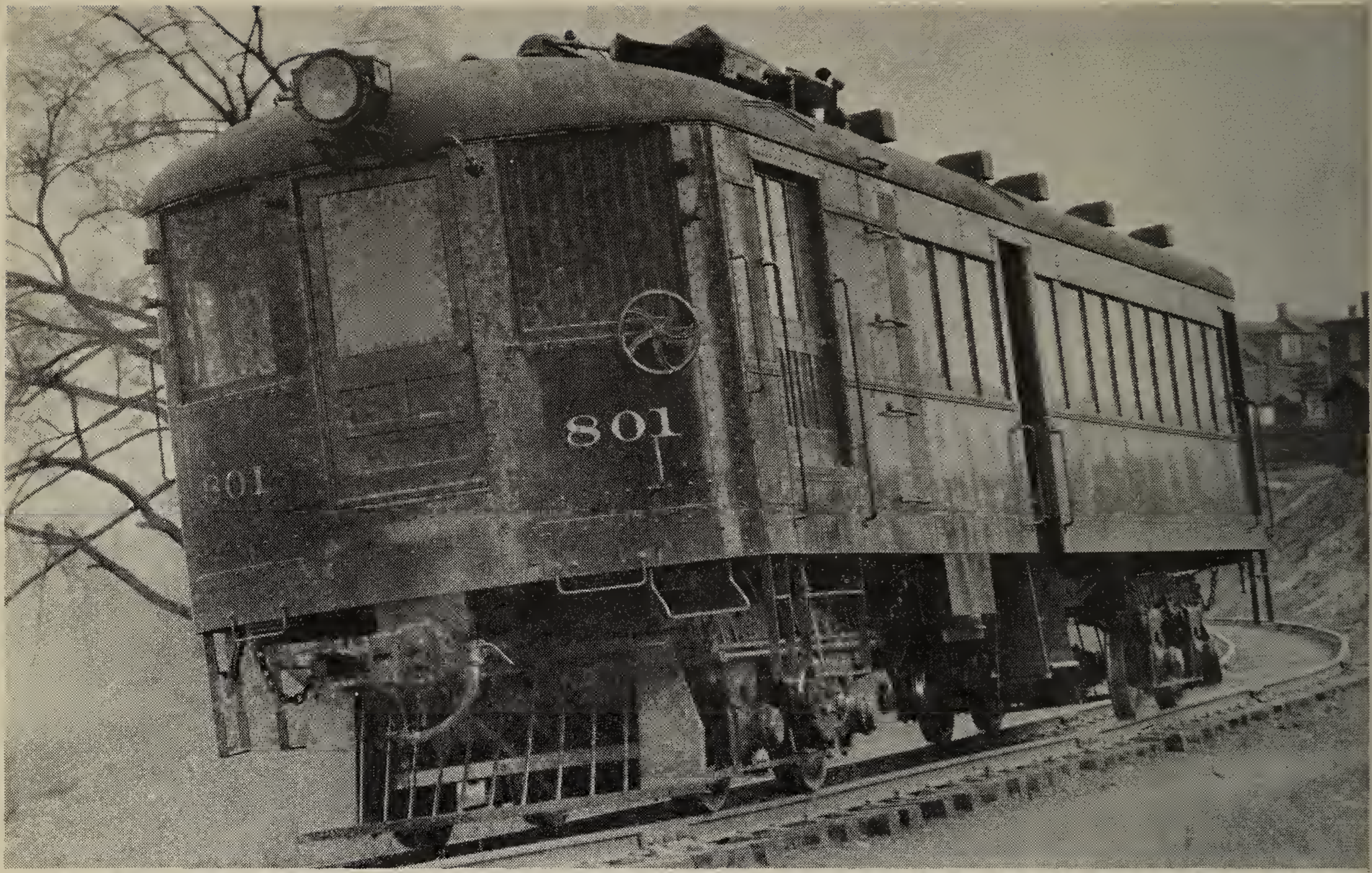
Model AH railway and interurban car features included right hand operators cabs; vestibule; salon; conductor's signal system; lift sash windows; smoking section; baggage or mail room section; coach section; street and platform loading off-center doorways; modern lighting; sufficient heating; and adequate ventilation. Train doors, standard railway couplers, and train line systems permitted multiple unit operations. Air brake system, control system, pilots, signal and classification lamps, hand holds, headlights, warning horn, and locomotive bells conformed to approved safety and railway operational practices. A prototype electro-pneumatic system controlled propulsion.

Allentown Plant scrapped No. 801 one year later after rigorous tests over spur trackage serving the plant, the Philadelphia and Reading Railway's Catasauqua and Fogelsville branch, and The New York, New Haven and Hartford Railroad's branches recorded disappointing results.

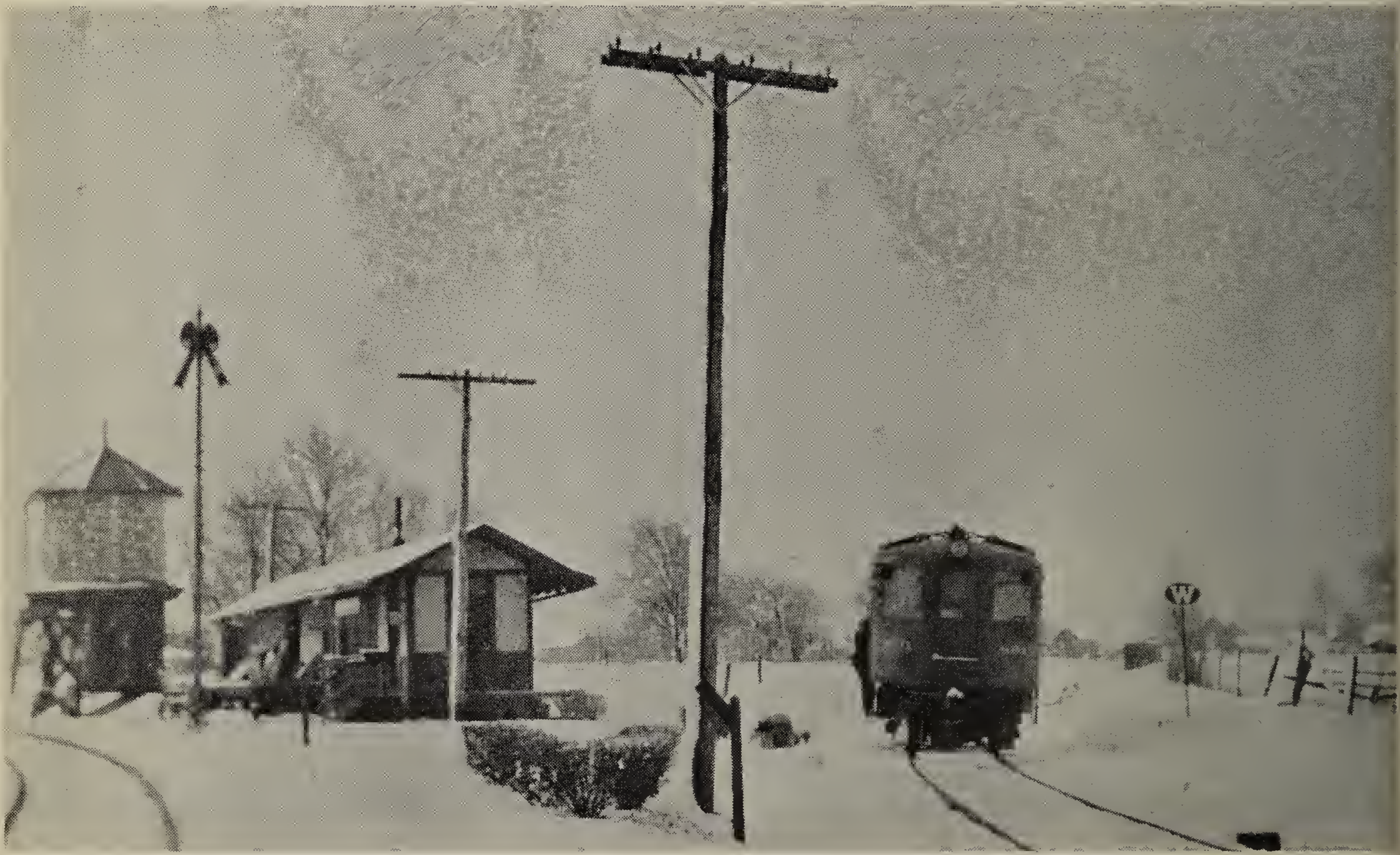
Mack engineers and rail car staff, at a cost exceeding one million dollars, next developed dual engine Model ACP passenger and combination double truck steel body direct drive gasoline motor cars. The Model ACP exterior and interior features basically resembled those of Model AH. Both railway truck frames included four wheels; one Mack four cylinder gasoline engine, which by means of a short shaft drove only one of two axles; transmission; gasoline tank; cooling system; exhaust system; electric generator; and air compressor.

An improved, but intricate, electro-pneumatic control system, located in each right hand cab control station, governed every engine's transmission either in single or multiple car operation. Efficient operation required perfect co-ordination of starters, ignition, carburetors, fuel feed, and each engine's revolutions per minute. Air cylinder pistons, connected to shafts bearing shifter forks, operated clutches and shifted gears. A camshaft revolution, or every second engine revolution, activated an engine device which caused steady flashing of cab indication lamps. Unusual engine speed or ignition mal function altered normal lamp flash intervals. Tachometers indicated the engines' revolutions per minute.

During summer, 1925, Allentown



Mack Model AH demonstrator No. 801 on Philadelphia and Reading Railway spur leading from a point near East Penn Junction to the Allentown Plant, 1923.



Mack Model AH demonstrator No. 801 at Trexlertown, Pennsylvania, undergoing tests during winter, 1923, over Philadelphia and Reading Railway's Catasauqua and Fogelsville branch.

Plant's No. 4 division completed three Model ACP cars: demonstrator combination car No. 0102; demonstrator passenger car No. 0304; and Chicago, Rock Island and Pacific Railroad Company combination car No. 9050. The three bodies, fabricated by Pullman Car and Manufacturing Corporation, Chicago, Illinois, in 1924, represented the initial shipment of an order totalling ten bodies. Vendors and manufacturers had been awarded electrical and mechanical equipment orders.

During July and August, 1925, Mack technical and mechanical employees and a qualified Philadelphia and Reading Railway locomotive engineer, supervised by an engineering department staff member, thoroughly tested, occasionally as long as seventy-two consecutive hours, Nos. 0102 and 0304 on a spur leading from P&R's Catasauqua and Fogelsville branch at Trexlertown to an abandoned iron ore pit one-half mile southwest of Breinigsville. The group proved Model ACP's drawing ability by setting off loaded freight cars in sidings along the spur.

After extensive tests had been concluded, Nos. 0102 and 0304, in tandem, during October and November, 1925, maintained regular Lehigh Valley Railroad local schedules between Newark, New Jersey, and Mauch Chunk, Pennsylvania, and from Easton, Pennsylvania, to Jersey City, New Jersey. Consistently the gasoline cars bettered the regular steam locomotive drawn train's best performance.

Meanwhile, on September 12, 1925, Mack representatives and railroad personnel delivered Rock Island Lines No. 9050 on wheels to Chicago from Allentown via Philadelphia and Reading Railway, Lehigh Valley Railroad, and New York Central system trackage. On September 16, 1925, after a one day exhibition in the Chicago station, No. 9050 entered passenger service between Altamount and St. Joseph, Illinois. A few weeks later shaft trouble induced its return to Allentown for revisions, but Mack never sent it back.

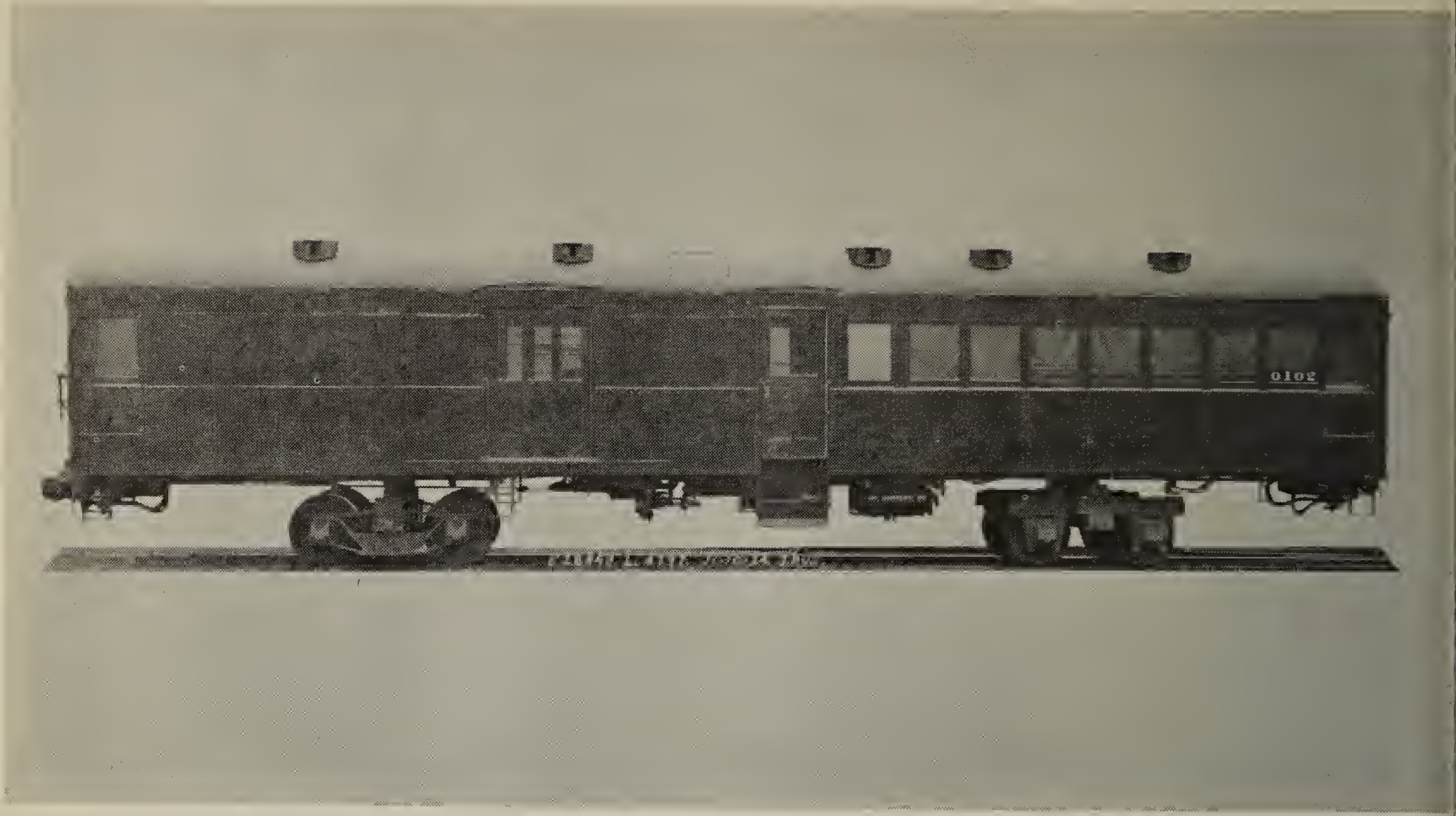
Technical and mechanical advancements, by this time, doomed Model ACP and other manufacturers' equivalents, almost precisely when Allentown Plant had developed a practical gasoline rail motor car. Railroads, viewing self-propelled motor car operations more favorably, preferred the gas-electric propulsion system. One, two, or three gasoline engines, setting in a separate compartment within the car, operated generators, also in the compartment, which produced electricity to turn motors cradled in one or both railway truck frames.

Mack discontinued Model ACP construction, cancelled the seven bodies on order, and shipped stock material, equipment, and the three completed cars to the Plainfield, New Jersey, plant where engineers and staff members who had no previous railway motor car construction experience initiated gas-electric development. During the early 1930's Plainfield Plant dismantled the three Model ACP cars.

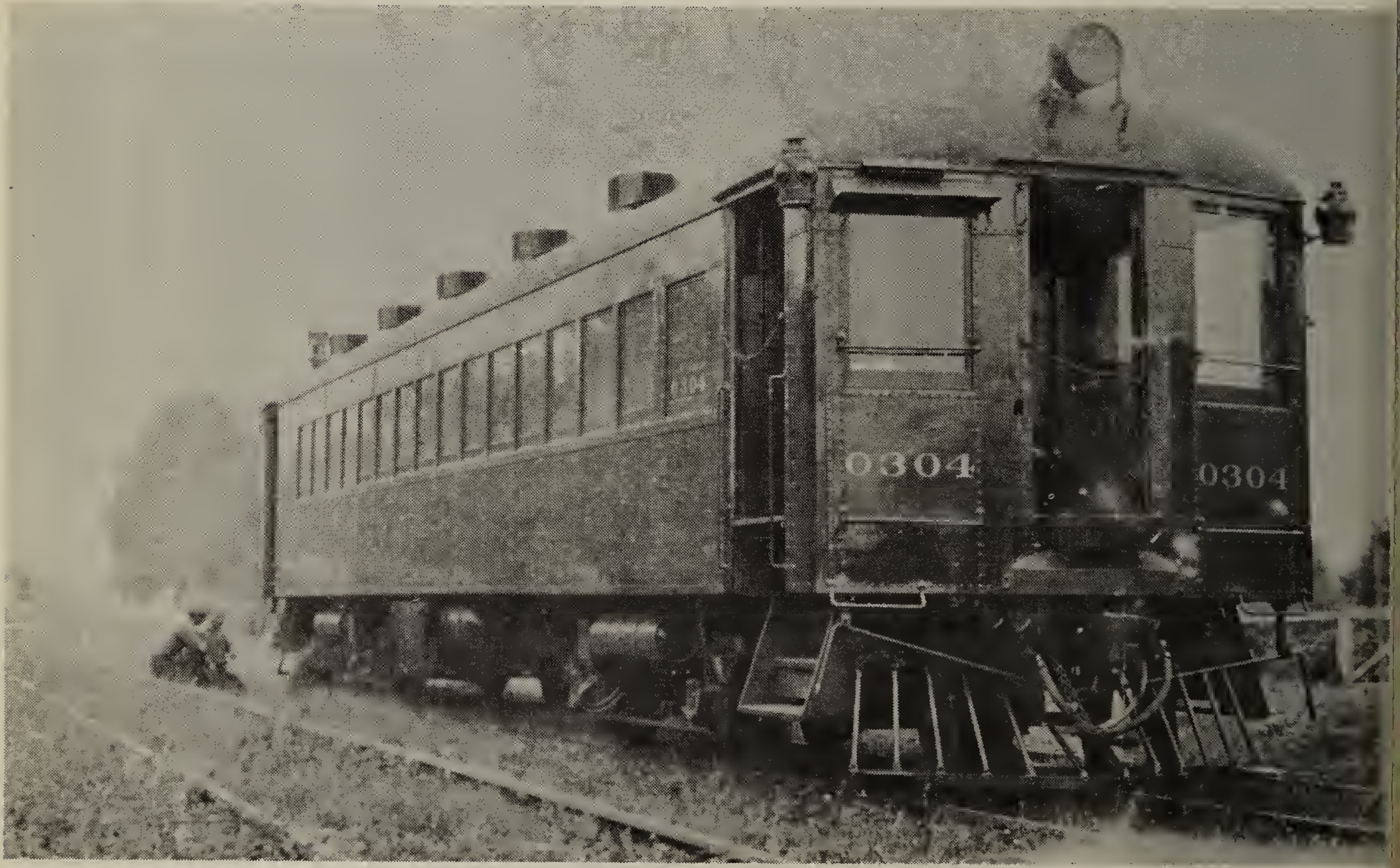
Gas-electric, 1927-1933

1207011

After a year's study Plainfield Plant produced, in 1927, all steel arch roof lightweight single engine Model AS; medium weight dual engine Model AQ; and heavy weight triple engine Model AR combination type gas-electric cars. A quadruple engine propelled car was offered only on special order. Model AR cars required a durable underframe, drawbars, and couplers to withstand increased shocks and allow greater drawbar pull of multiple car or trailer operations.



Mack Model ACP combination demonstrator No. 0102 setting on shop trucks at Pullman Car and Manufacturing Corporation, Chicago, Illinois, October 11, 1924. The Chicago, Rock Island and Pacific No. 9050 was identical.



Mack Model ACP coach demonstrator No. 0304 near Trexlertown, Pennsylvania, undergoing tests on spur leading from Philadelphia and Reading Railway's Catasauqua and Fogelsville branch, summer, 1925.

Additional features, as compared to Model ACP, included shatterproof clear windshields; electric windshield wipers; a separate engine room compartment containing power plants; traction motors; side and roof engine radiators; a roof exhaust stack; longer heavier frame and body; and a blunt hooded front end designed to scoop air and, by the car's motion, circulate the air through the engine room and emit it via a roof outlet. Mack altered rail car designs and installations whenever conditions or customer demands required changes.

The gas-electric propulsion system included a remote type controller, starter, cooling system, ignition system, lubricating system, six cylinder Mack Model AP engine, compressor, generator, traction motors, and component equipment. Multiple plug connectors and multiple plug jumpers connected electric and air systems of several cars or trailers in a train.

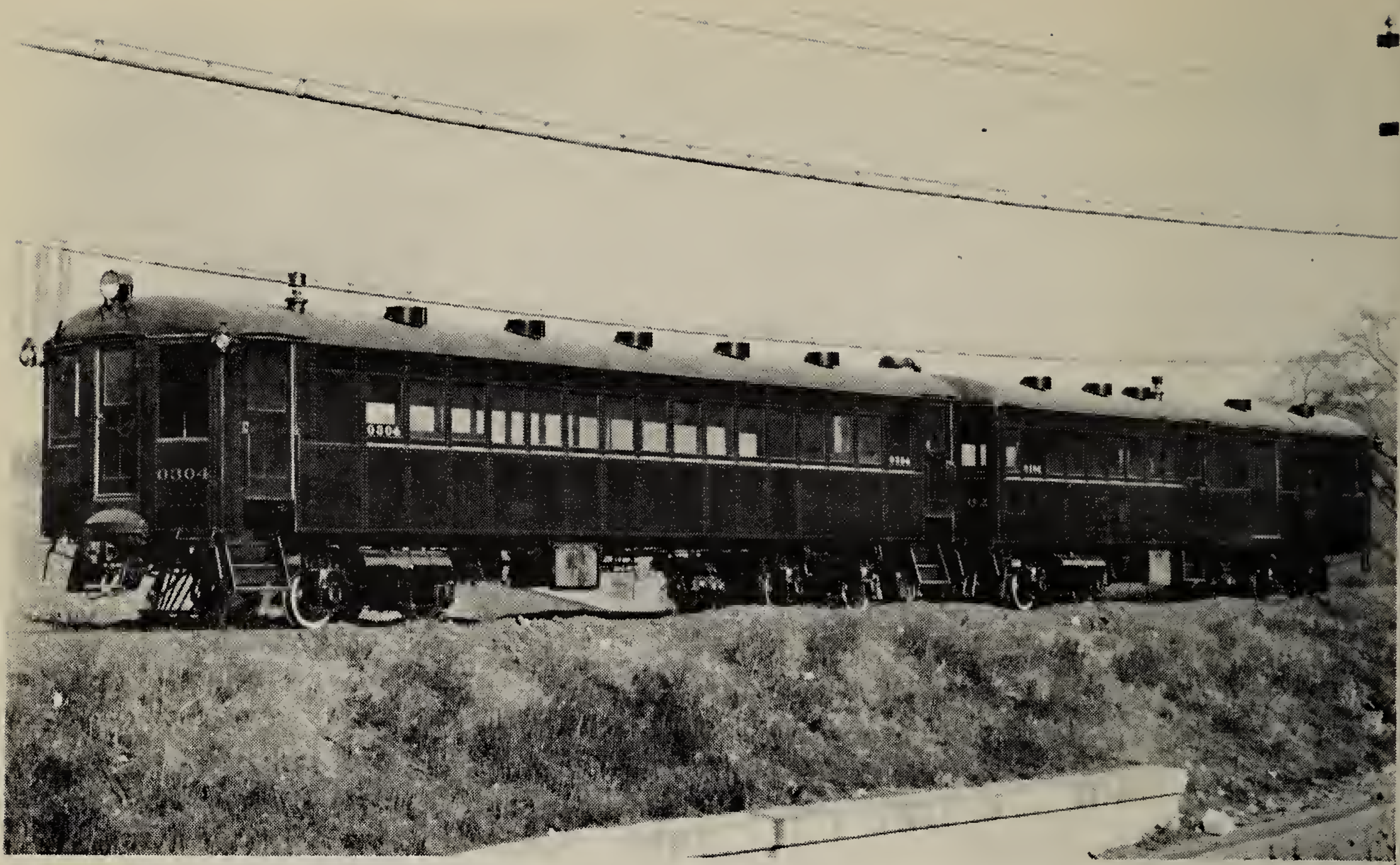
Engineers controlled starting, propulsion, and braking of a single car or train from right side control stations. Either the motormeter at each engine's outlet water header or the oil line pressure gauge illuminated indicator panel lamps when propulsion unit mal function occurred. Cut-out switches, conveniently placed near the engineer, disengaged engines having mechanical or electrical failures. Another panel contained lighting and headlight switches.

Purchasers chose either a General Electric separate exciter or a Westinghouse battery teaser generator. Generators, mounted on the engine's bed plate, were lubricated by a grease cup, ventilated by a built-in fan, and driven by a flywheel through a Mack Torque Insulator. Limited generator excitation prevented stalling and a centrifugal governor built into the engine forestalled racing.

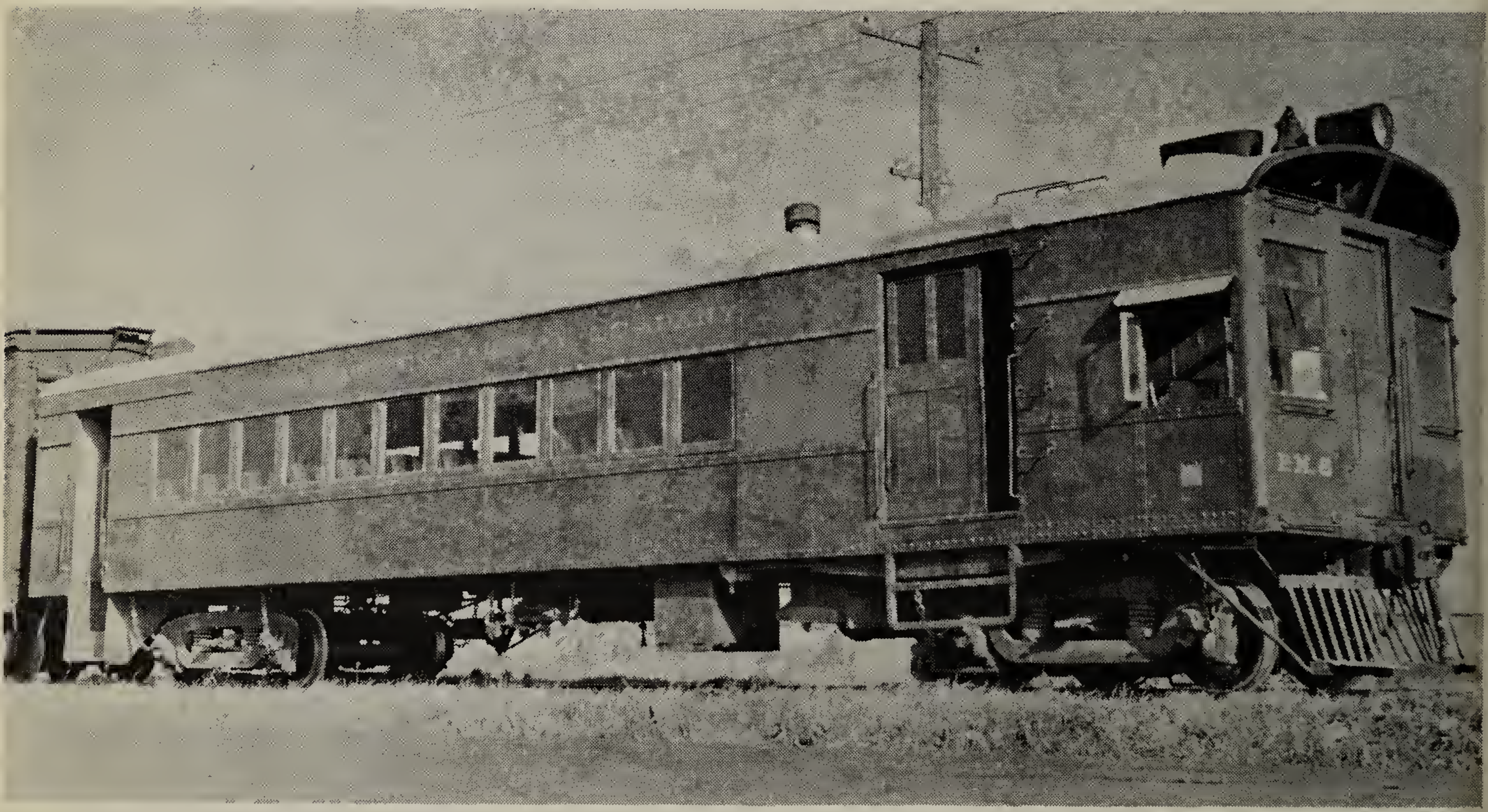
Mack railway car equipment included electrical and mechanical products manufactured by Westinghouse, General Electric, Timken, Stromberg, Commonwealth, Exide, and others, as well as those developed by Allentown and Plainfield plants. The J. G. Brill Company; Bethlehem Steel Company; Pullman Car and Manufacturing Corporation; Osgood-Bradley Car Company; Cummings Car and Coach Company; and St. Louis Car Company fabricated bodies.

Mack gas-electric brochures enumerated the multiple engine propulsion system's advantages: lower fuel costs by shutting down, under light load conditions, one or two engines; one engine provided sufficient power to retain service continuity although one or two other engines had failed; a crew member could accomplish minor repairs enroute or at a terminus; and mechanical departments required a minimum spare parts inventory. Small parts permitted convenient removal by one repairman and wide engine room or baggage compartment doorways permitted the removal of an entire propulsion unit.

As customary, demonstrator units operated everywhere. Model AQ demonstrator No. M200, later New York Central No. M14, late in 1927 averaged twelve and one-half cents per mile maintenance, gasoline, and oil cost during a six month test conducted by a leading railroad system. Model AR demonstrator No. 2001, later Pittsburgh and Lake Erie No. M70, demonstrated its multi-trailer drawing ability throughout mid-western United States. In March, 1928, before Mack commenced a transcontinental tour from New York to San Francisco, Winnipeg Electric Company purchased the Model AS demonstrator. All sales efforts produced a satisfactory record until the 1929 financial collapse eventually affected the railroads' buying power.



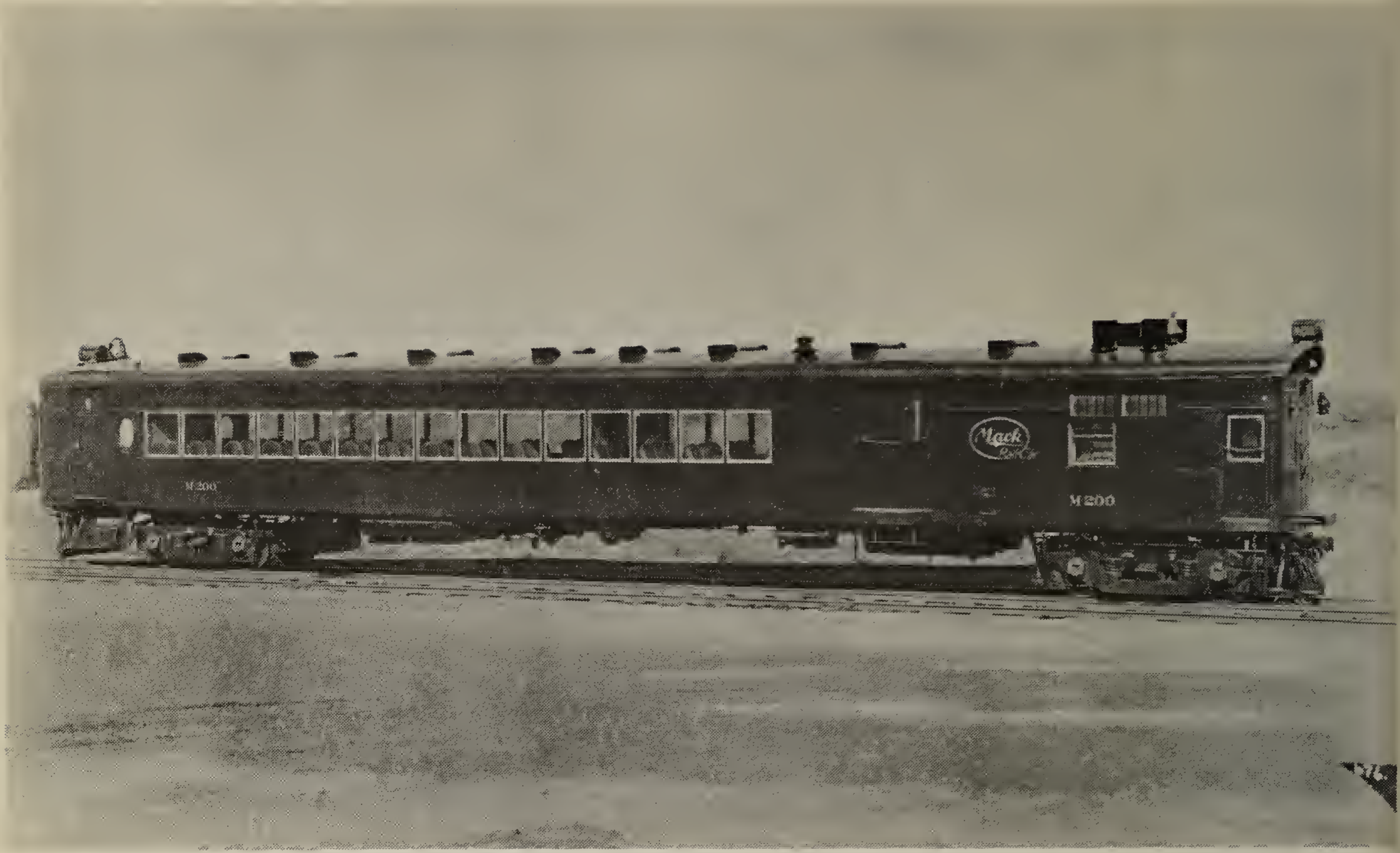
Mack Model ACP demonstrators Nos. 0304 and 0102 on Philadelphia and Reading Railway spur east of Allentown Plant, 1925.



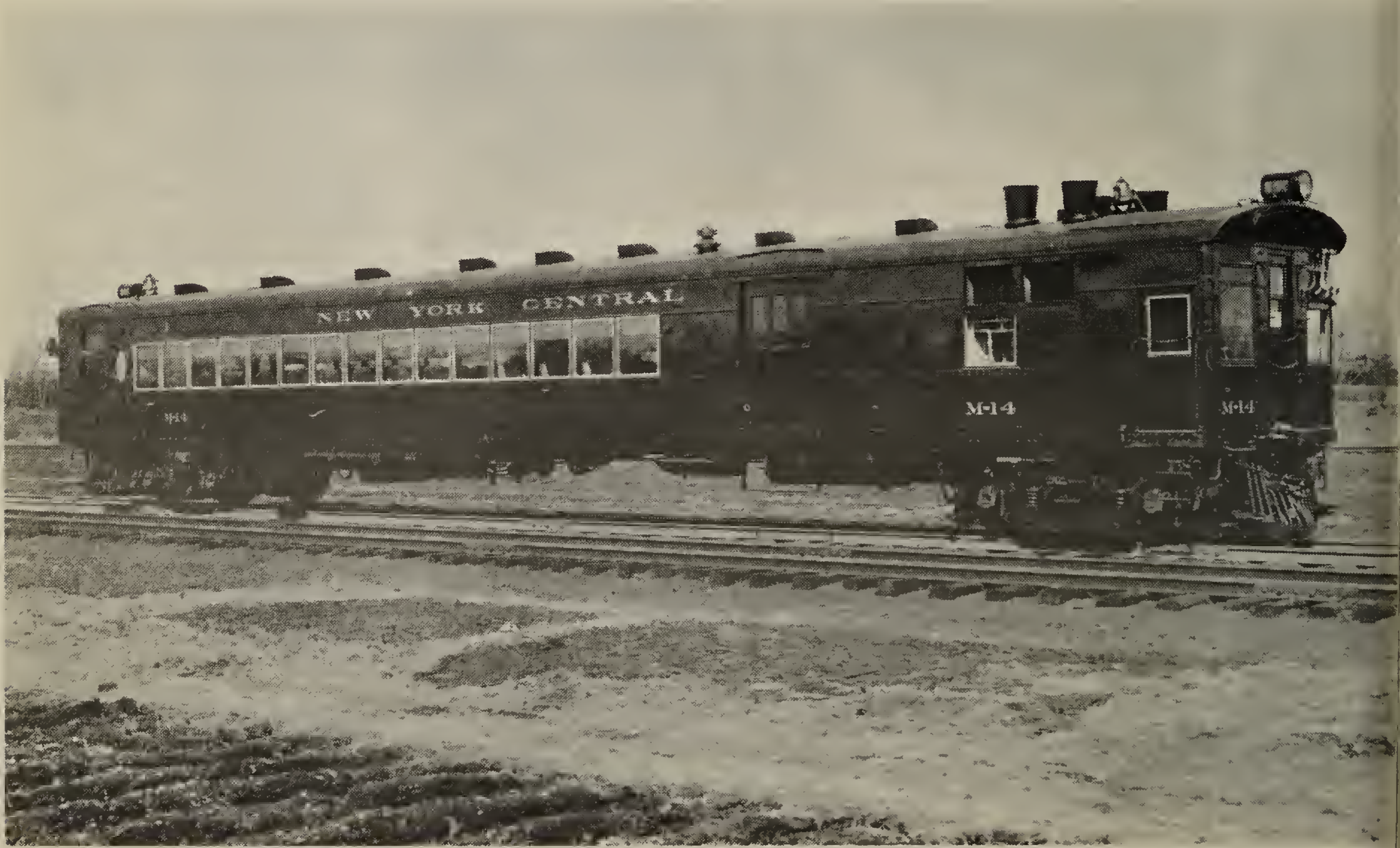
Manitoba Eastern Railway No. PM6, Model AS, the former Winnipeg Electric Company No. PM6, served the electric company's subsidiary at the time of abandonment in 1954.

TECHNICAL INFORMATION, RAILROAD COACH TYPE RAIL MOTOR CARS

	Model ACP	**Model AS**
Body and Roof	All steel passenger or combination body; steel arch roof	All steel combination body; steel arch roof
Seating Cap.	Passenger: 60; Combination: 30	Passenger section: 40; Smoker: 15
Heating	Coal stove; air through ducts	Coal stove; air through ducts
Ventilation	Exhaust, ceiling louvres	Exhaust, 10 ceiling louvres
Pilot	2, wrought iron and steel	1, wrought iron and steel
Entrances	Passenger: 4; 2 train Combination: 2 pass; 2 bag; 2 train	2 passenger; 2 baggage; 2 train
Smoker	(none)	7 ft., 9 in.
Passenger Section	Passenger car: 44 ft., 10 in. Combination car: 24 ft.	23 ft., 3 in.
Baggage Compartment	Passenger car: (none) Combination car: 23 ft.	10 ft.
Engine Room	(none)	5 ft., 5 in.
Salon	One at No. 2 end	2 at No. 2 end
Wheels, Trucks	2 std. trucks; 4-30 in. wheels per truck	2 std. trucks; 4-30 in. wheels per truck
Overall Dimensions	54′ long; 9′, 9½″ wide; 12′, 6″ high	54′, 6″ long; 10′ wide; 12′, 1 1/8″ high
Truck Center	29 ft., apart	35 ft., 6 in., apart
Lightweight	48,000 pounds	54,000 pounds
Controls	Electro-pneumatic controls and auxiliaries at both ends	Westinghouse or General Electric Type M-solenoid at No. 1 end only
Engine	1 AC, 4 cyl.; 60 hp; 5″ bore, 6″ stroke in each truck, 4 speeds forward and 4 rear	1 AP, 6 cyl.; 135 hp; 5″ bore, 6″ stroke; 1000 rpm; floor mounted
Drive	Universal joint connects engine to transmission which by shaft connects with gears on axles	Engine operates generator which produces electricity for traction motors in front truck
Carburetor	Stromberg	2″ fuel feed, Stromberg
Traction Motors	(none)	2, 60 hp each, in forward truck
Lubrication	Force feed and splash	Force feed and splash, pump
Ignition	Single high tension magneto	Single high tension magneto
Generators	1½ kw, 32-40 v, axle driven;	Separate exciter, 90 kw, 450 v, 145 amp, DC; separate 750 w., 32 v., for lighting
Battery	1, Exide, 16 cell, 180 amp	1, 32 v, 16 cell
Cooling System	Water, forced circulation through cells	Water, forced circulation through 2 tubes on roof and 2 on side
Exhaust	Pipe at truck	Steel stack, venturi ducts
Brakes	WH, AMM; str. and automatic; wheel hand brake; engine drove air compressor	WH, AML; Peacock hand brakes; engine drove air compressor
Coupler	ARA contour	ARA
Fuel Capacity	1, 25 gal. cap. tank, each truck	175 gals.
Lights	250 w incandescent headlamps at each end; 16, 23 w, 32 v interior in Alba shades; marker and classification lamps	250 w Golden Glow headlamp; dome interior lights; 2 marker and classification lamps
Signals	Locomotive bell and whistle	Hammett locomotive bell, one air horn, and one signal whistle
Window Wiper	(none)	Follerthy air operated
Maximum Speed	35 mph	45 mph single; 34.4 mph one trailer



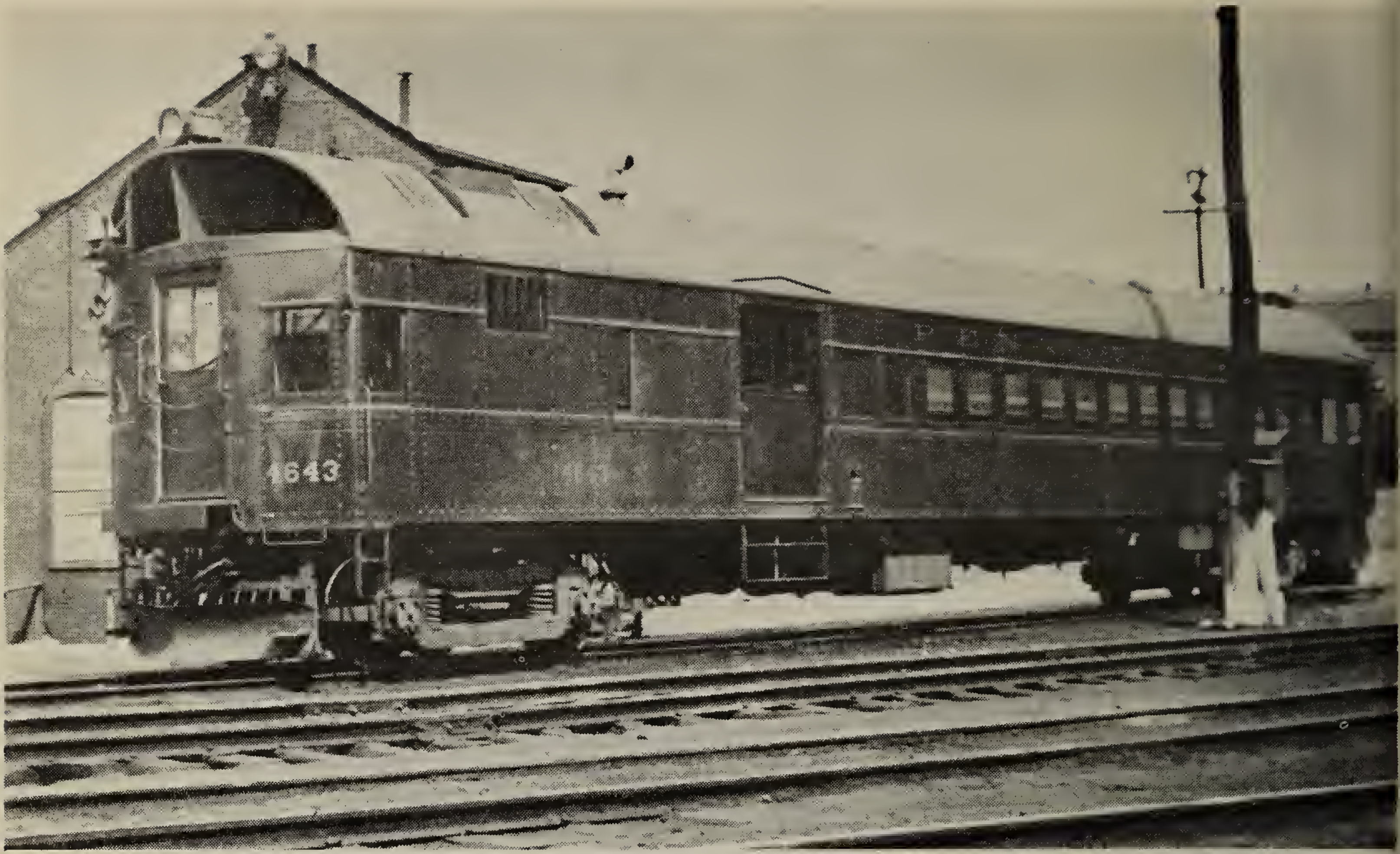
Mack Model AQ demonstrator No. M200, later New York Central System No. M14, at Osgood-Bradley Car Company, Worcester, Massachusetts, 1927.



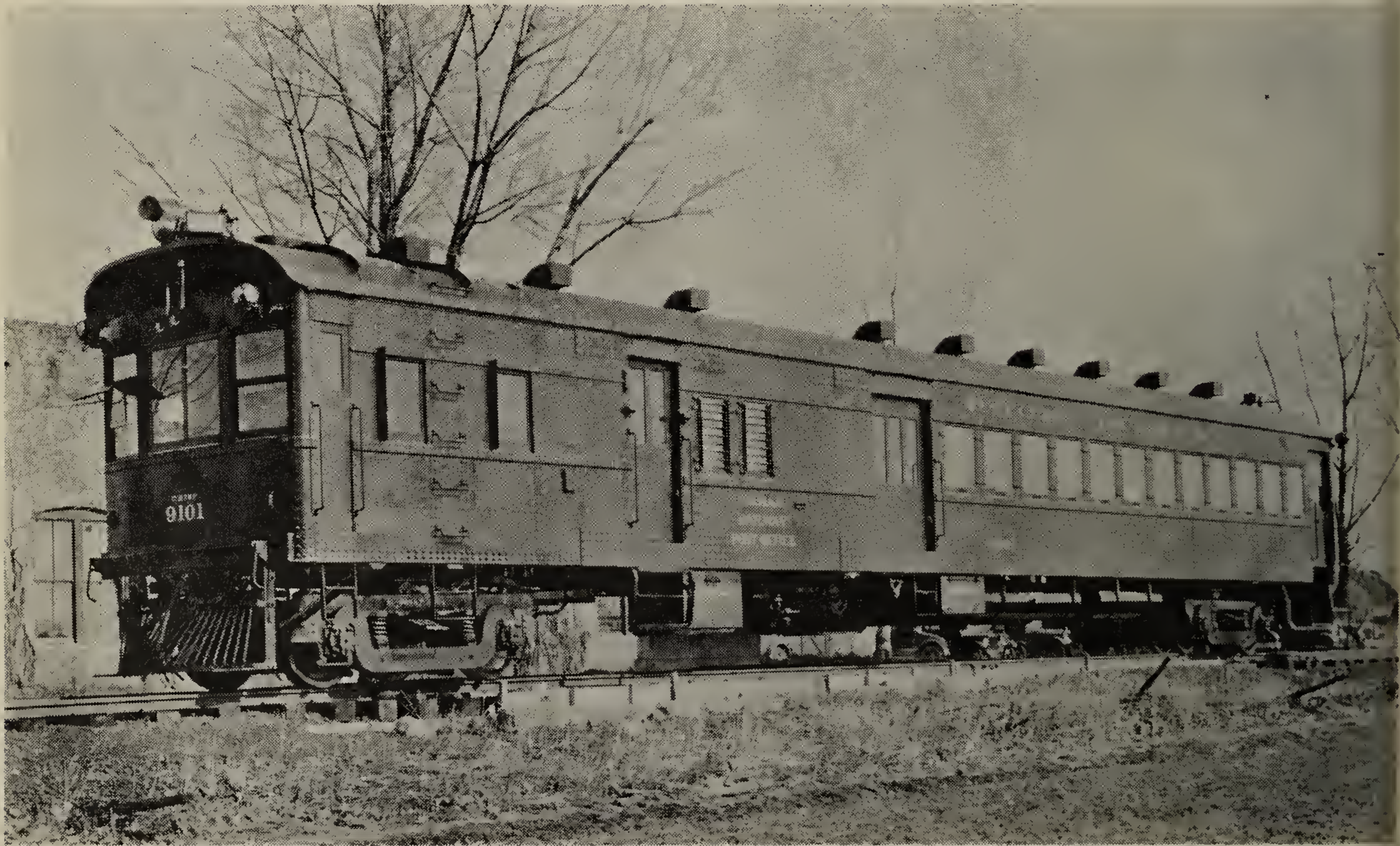
New York Central System No. M14, Model AQ, former Mack demonstrator No. M200, at Osgood-Bradley Car Company, Worcester, Massachusetts, March 22, 1928.

TECHNICAL INFORMATION, RAILROAD COACH TYPE RAIL MOTOR CARS

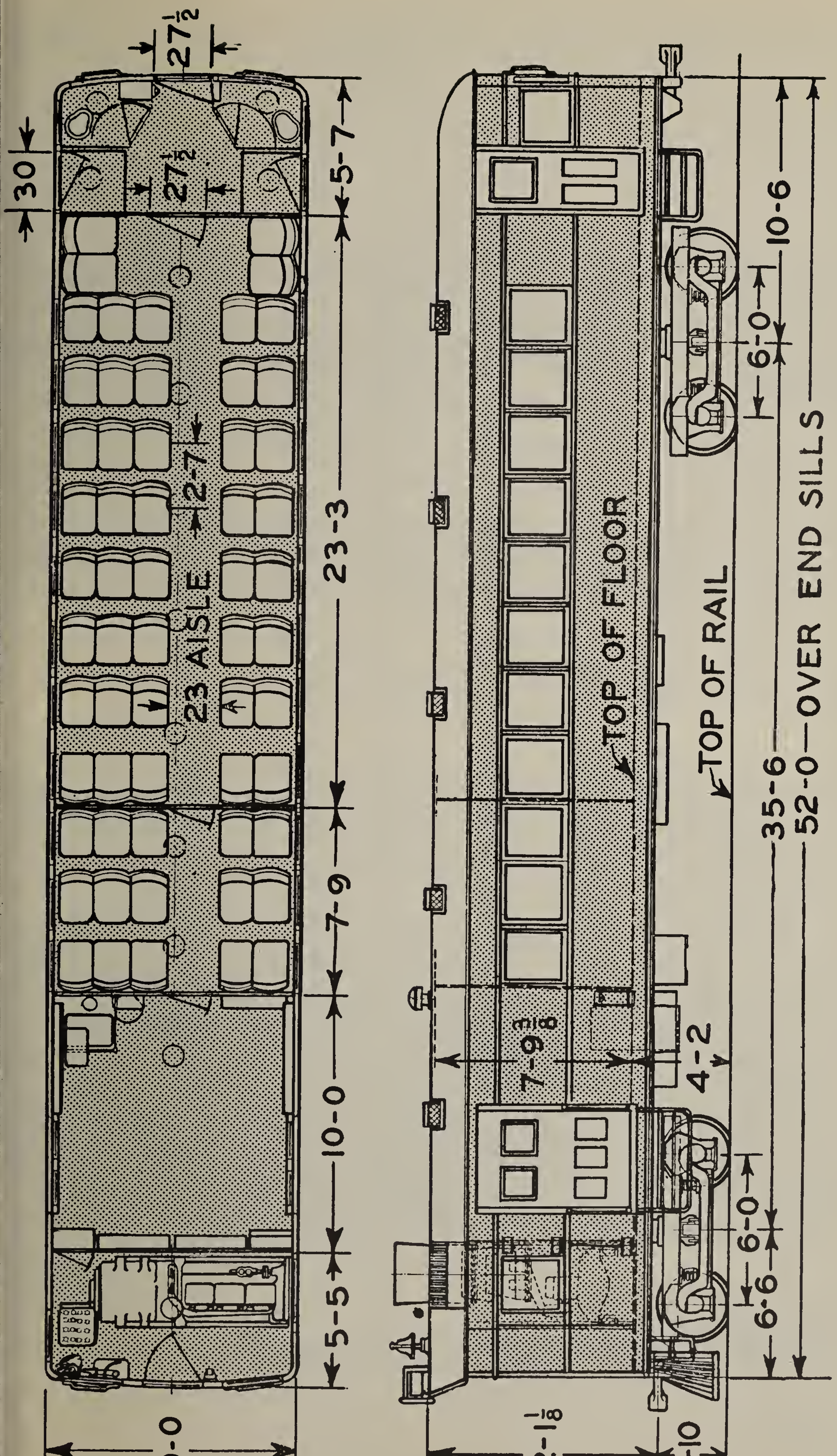
	Model AQ	Model AR
Body and Roof	All steel combination body; steel arch roof	All steel combination body; steel arch roof
Seating Cap.	Passenger section: 59; Smoker: 18	Passenger section: 54; Smoker: 18
Heating	Coal stove, air through ducts	Coal stove, air through ducts
Ventilation	Exhaust; 16 ceiling louvres	Exhaust; 16 ceiling louvres
Pilot	2, wrought iron and steel	2, wrought iron and steel
Entrances	2 passenger, 2 baggage, 2 train	2 passenger, 2 baggage, 2 train
Smoker	10 ft., 4 in.	10 ft., 4 in.
Passenger Section	31 ft.	28 ft., 5 in.
Baggage Compartment	16 ft., 8½ in.	15 ft., 2 in.
Engine Room	10 ft., 4½ in.	14 ft., 6 in.
Salon	1 at No. 2 end; 1 at bag. compt.	1 at No. 2 end; 1 at bag. compt.
Wheels, Trucks	2 std. trucks; 4-33 in. wheels per truck	2 std. trucks; 4-33 in. wheels per truck
Overall Dimensions	76′, 7½″ long; 10′ wide; 12′, 3 1/8 in. high	76′, 7½″ long; 10′ wide; 12′, 3 1/8 in. high
Truck Centers	56 ft., 6 in., apart	56 ft., 6 in., apart
Lightweight	104,000 pounds	115,000 pounds
Controls	Westinghouse or General Electric Type M-solenoid at both ends	Westinghouse or General Electric Type M-solenoid at both ends
Engine	2 AP, 6 cyl.; 135 hp ea.; 5″ bore, 6″ stroke; 1000 rpm; floor mtd.	3 AP, 6 cyl.; 135 hp ea.; 5″ bore; 6″ stroke; 1000 rpm; floor mtd.
Drive	Engines operate generators which produce electricity for traction motors in front truck only	Engines operate generators which produce electricity for traction motors in both trucks
Carburetor	2″ fuel feed, Stromberg	2″ fuel feed, Stromberg
Traction Motors	2, 140 hp motors in forward truck	2, 140 hp motors in forward truck; 1 in rear truck
Lubrication	Force feed and splash, pump	Force feed and splash, pump
Ignition	Single high tension magneto	Single high tension magneto
Generators	Exciter, 90 kw, 450 v, 145 amp, direct current; 1 for each engine; separate 750 w., 32 v. for lighting	Exciter, 90 kw, 450 v, 145 amp, direct current; 1 for each engine; separate 750 w., 32 v. for lighting
Battery	2 - 32 v, 16 cell	3 - 32 v, 16 cell
Cooling System	Water, forced circulation through 2 tubes on roof and 2 on side	Water, forced circulation through 2 tubes on roof and 2 on side
Exhaust	Steel stack, venturi ducts	Steel stack, venturi ducts
Brakes	WH, AML; Peacock hand brakes. Engine drove air compressor	WH, AML; Peacock hand brakes. Engine drove air compressor
Coupler	ARA	ARA
Fuel Capacity	260 gallons	350 gallons
Lights	2, 250 w Golden Glow headlamps; dome interior lights; 2 marker and classification lamps	2, 250 w Golden Glow headlamps; dome interior lights; 2 marker and classification lamps
Signals	Two Hammett locomotive bells; two air horns; two signal whistles	Two Hammett locomotive bells; two air horns; two signal whistles
Window Wiper	One Follerthy air, each end	One Follerthy air, each end
Maximum Speed	54 mph single; 44.5 mph with one 40 ton trailer; 38.2 mph with two 40 ton trailers	61.6 mph single; 53.2 mph with one 40 ton trailer; 47.0 mph with two 40 ton trailers; 42.0 mph with three 40 ton trailers



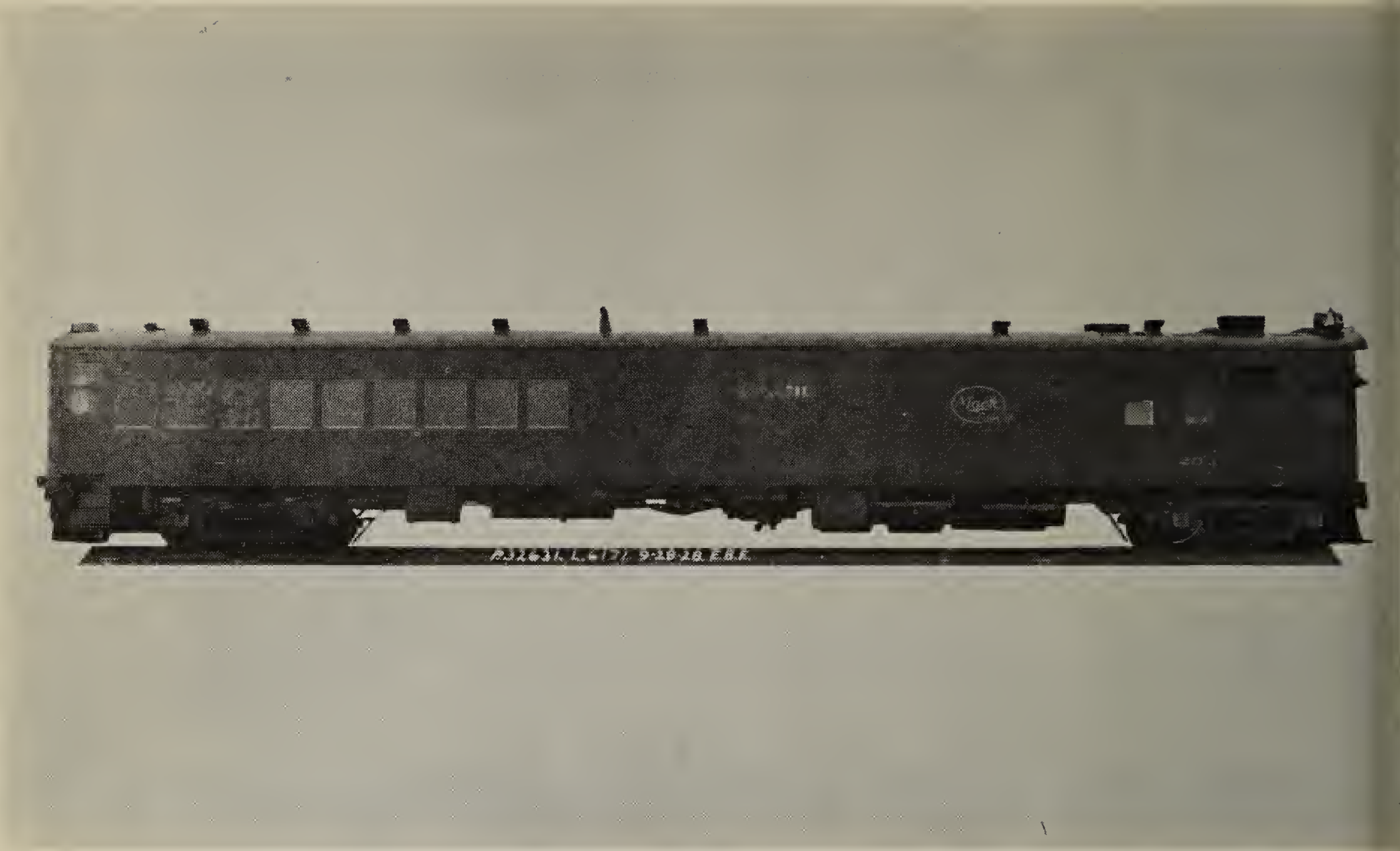
The Pennsylvania Railroad No. 4643, Model AQ, Baltimore, Maryland, summer, 1934. On November 23, 1934, No. 4643 suffered irreparable fire damage.



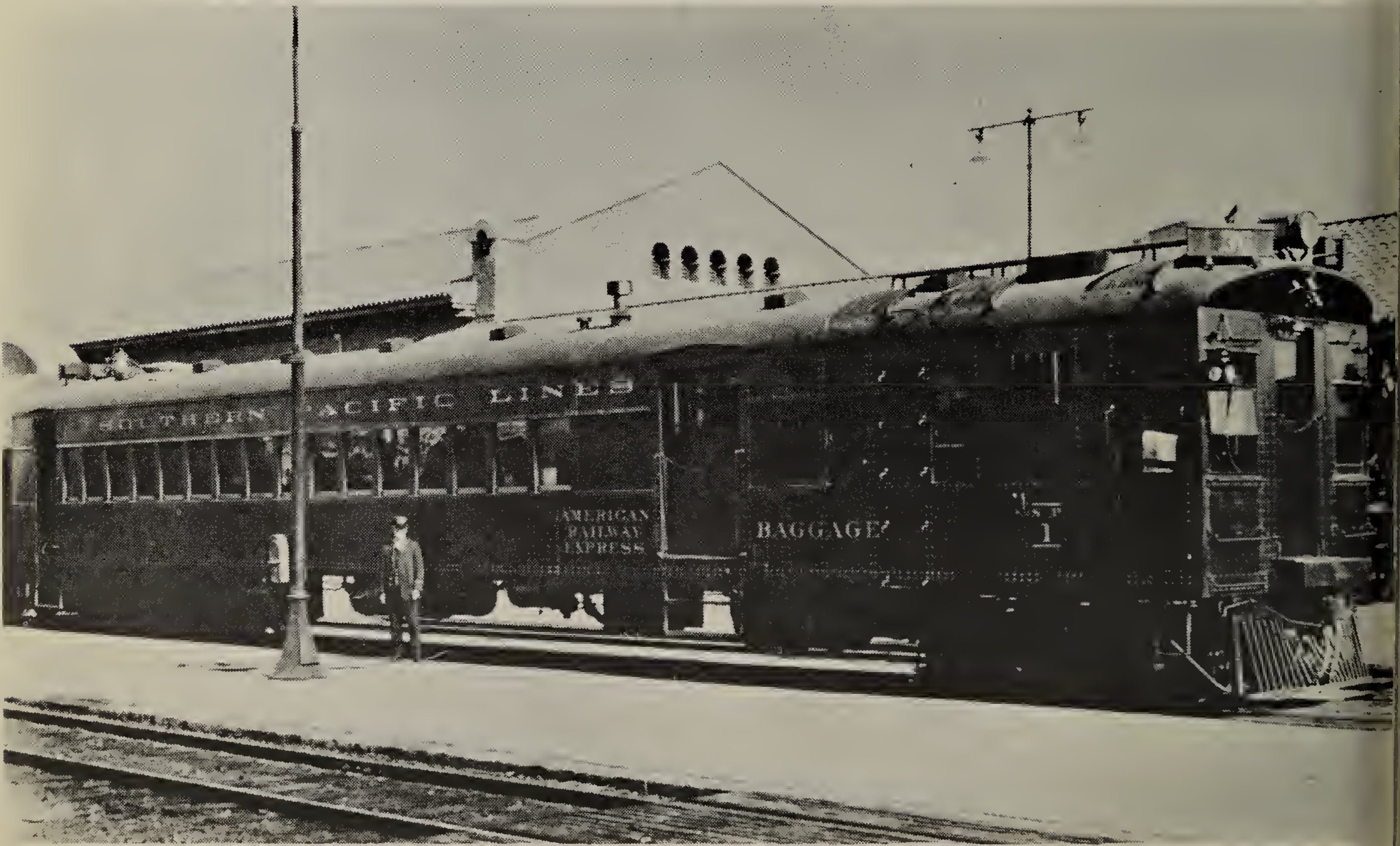
Chicago, Rock Island and Pacific Railroad No. 9101, Model AQ, at Cummings Car and Coach Company, Paris Illinois, February, 1929.



Mack Model AS, Single Unit Railcar



Mack Model AR demonstrator No. 2001, later The Pittsburgh and Lake Erie Railroad and Monongahela Railway No. M70, at Pullman Car and Manufacturing Corporation, Chicago, Illinois, September 28, 1928.



Southern Pacific Company No. SP1, Model AR, circa 1929 at the Phoenix, Arizona, station.

CONSTRUCTION ROSTER, RAILROAD COACH TYPE RAIL MOTOR CARS

MODEL AH, ALLENTOWN PLANT

Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
—	Mack Experimental	801	1923	Brill	Demonstrations	Scrapped, 1924

MODEL ACP, ALLENTOWN PLANT

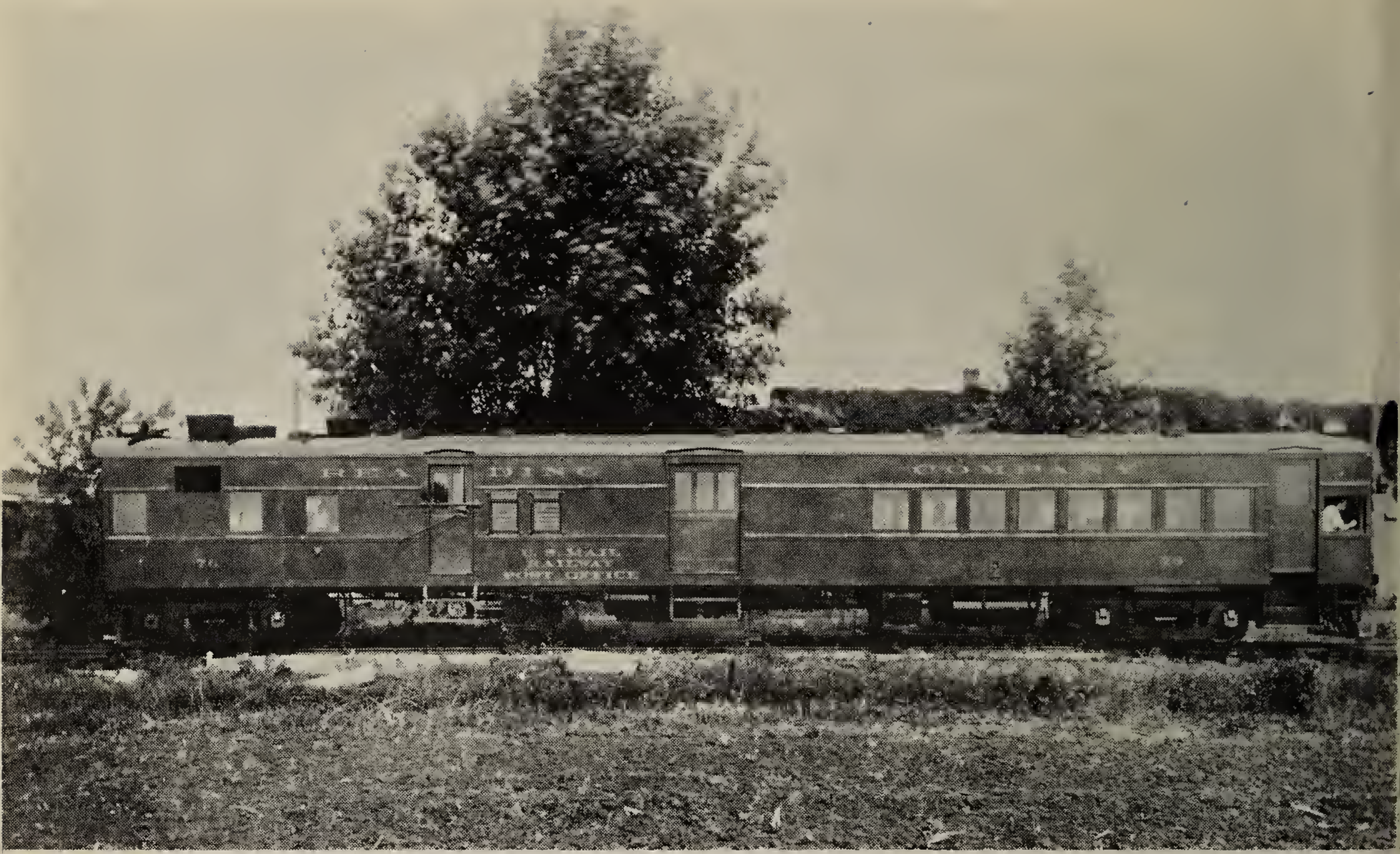
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
FIB1004	Chicago, Rock Island & Pacific	9050	9/12/25	Pullman	Illinois	Scrapped by Mack, 1930
—	Mack Experimental	0102	1925	Pullman	Demonstrations	Scrapped by Mack, 1930
—	Mack Experimental	0304	1925	Pullman	Demonstrations	Scrapped by Mack, 1930

MODEL AS, PLAINFIELD PLANT

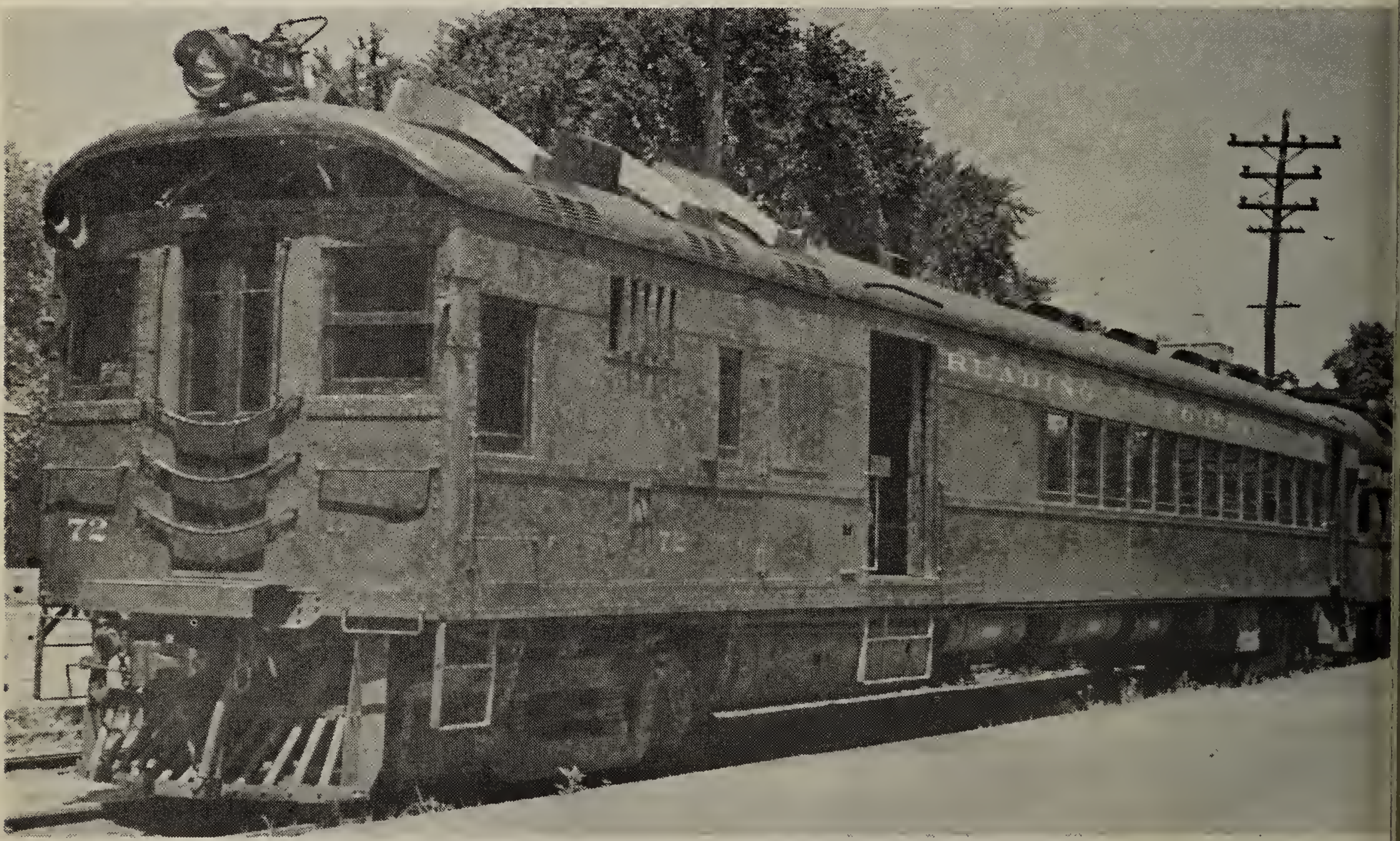
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
163001	Winnipeg Electric	PM5	3/15/28	Cummings	Subsidiaries in Manitoba	Sold, Greater Winnipeg Water District Ry., 1935
163002	Winnipeg Electric	PM6	11/27/28	Cummings	Subsidiaries in Manitoba	Body only for sale, 1/1/59. Trucks to Greater Winnipeg Water Dist. Ry., 1954
163003	Canadian National	—	11/26/28	Convert storage battery Car No. 15796 to gas-el.		Scrapped, Dec., 1943
163004	Canadian National	—	2/28/30	Convert storage battery Car No. 15791 to gas-el.		Scrapped, 1947

MODEL AS, RESALE TRANSACTIONS

Serial No.	Railroad	No.	Former Owner	Area Served	Disposition
163001	Greater Winnipeg Water District Ry.	31	from Winnipeg Electric Co., 1935	Winnipeg	In service, 1/1/59



Reading Company No. 76, Model AR, at Cummings Car and Coach Company, Paris, Illinois, November, 1928.



Reading Company No. 72, Model AR, at Woodbury, New Jersey, July 27, 1946.

CONSTRUCTION ROSTER, RAILROAD COACH TYPE RAIL MOTOR CARS

MODEL AQ, PLAINFIELD PLANT

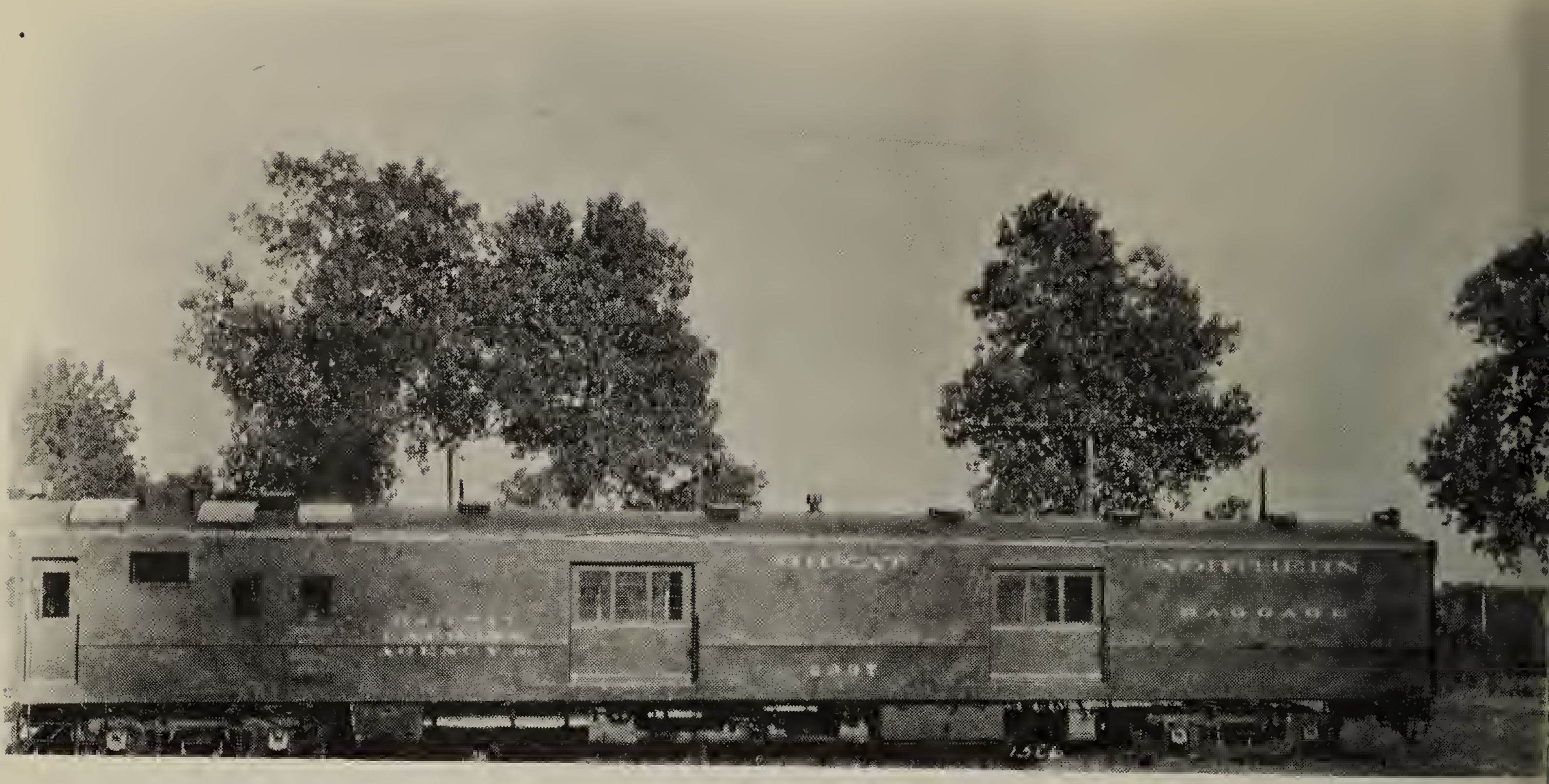
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
161001	New York Central	M14	3/37/28	Osgood-Bradley	New York Adirondack Mountains	(no record)
161002	Chicago, Burlington & Quincy	569	11/10/28	Pullman	Illinois	Later. No. 9569. Wrecked as No. 9850, 4/27/43
161003	Pennsylvania	4643	7/31/28	Brill	Maryland	Burned, 11/23/34
161004	Chicago, Rock Island & Pacific	9100	2/25/29	Cummings	Illinois	Scrap., 5/22/47
161005	Chicago, Rock Island & Pacific	9101	2/25/29	Cummings	Illinois	Scrap., 10/15/42
161006	Chicago, Rock Island & Pacific	9102	2/25/29	Cummings	Illinois	Scrap., 10/15/42
161007	Chicago, Rock Island & Pacific	9103	1/15/30	Cummings	Illinois	Scrap., 10/15/42
161008	Chicago, Rock Island & Pacific	9104	1/15/30	Cummings	Illinois	Scrap., 10/15/42
161009	South Manchurian Railway	—	6/18/30	St. Louis	Korea	(no record)

MODEL AR, PLAINFIELD PLANT

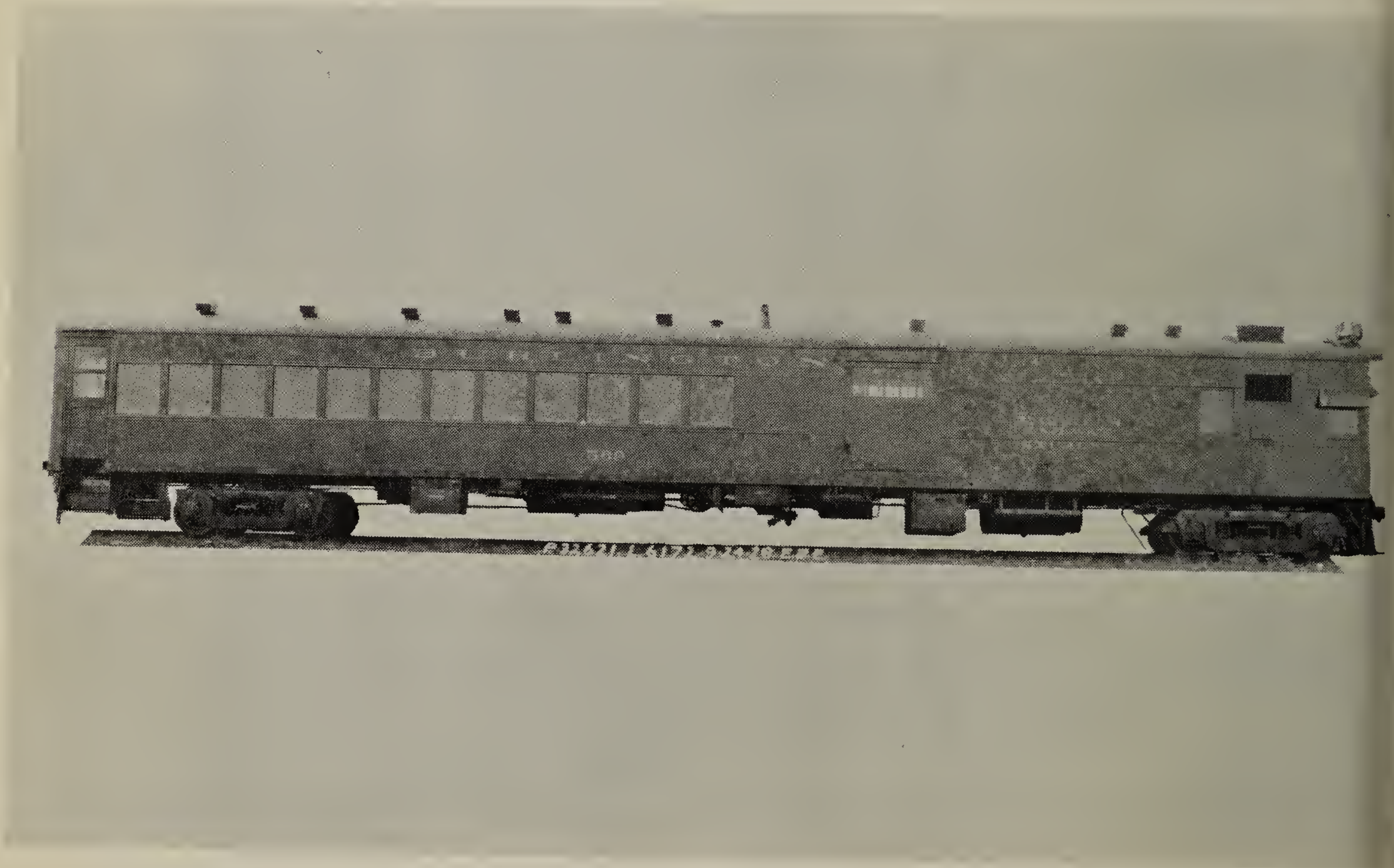
Serial No.	Railroad	No.	Date Built	Body	Area Served	Disposition
162001	Pittsburgh & Lake Erie	M70	Purchased 4/27/33, built 1928	Pullman	Pittsburgh-College, Pa.	Sold, 1940, Monongahela Ry.
162002	Reading Company	76	11/22/28	Cummings	New Jersey	Scrapped as 4076, 11/28/45
162003	Southern Pacific	SPI	7/16/29	Cummings	Arizona	Renum: SPMW 7017H. Maintenance car SPMW4257, in service, 1/1/59
162004	Reading Company	71	8/20/29	Bethlehem Steel	New Jersey	As of 1/1/59, No. 4071, in storage
162005	Reading Company	72	8/20/29	Bethlehem Steel	New Jersey	As of 1/1/59, No. 4072, in storage
162006	Great Northern	2337	9/16/29	St. Louis	Cascade Mt.	Out of service, 1956

MODEL AR, RESALE TRANSACTIONS

Serial No.	Railroad	No.	Former Owner	Area Served	Disposition
162001	Monongahela Railway	M70	Formerly, Pittsburgh & Lake Erie. Pur. January 19, 1940	Fairmount, W. Va. Brownsville, Penna.	Scrapped, July, 1951



Great Northern Railway No. 2337, Model AR, at St. Louis Car Company, St. Louis, Missouri, September, 1929. Later, No. 2337, equipped as a tower car, served the Cascade Mountains electrification.



Chicago, Burlington and Quincy No. 569, Model AQ, later renumbered No. 9569 and No. 9850, at Pullman Car and Manufacturing Company Corporation, Chicago, Illinois, September 24, 1928.

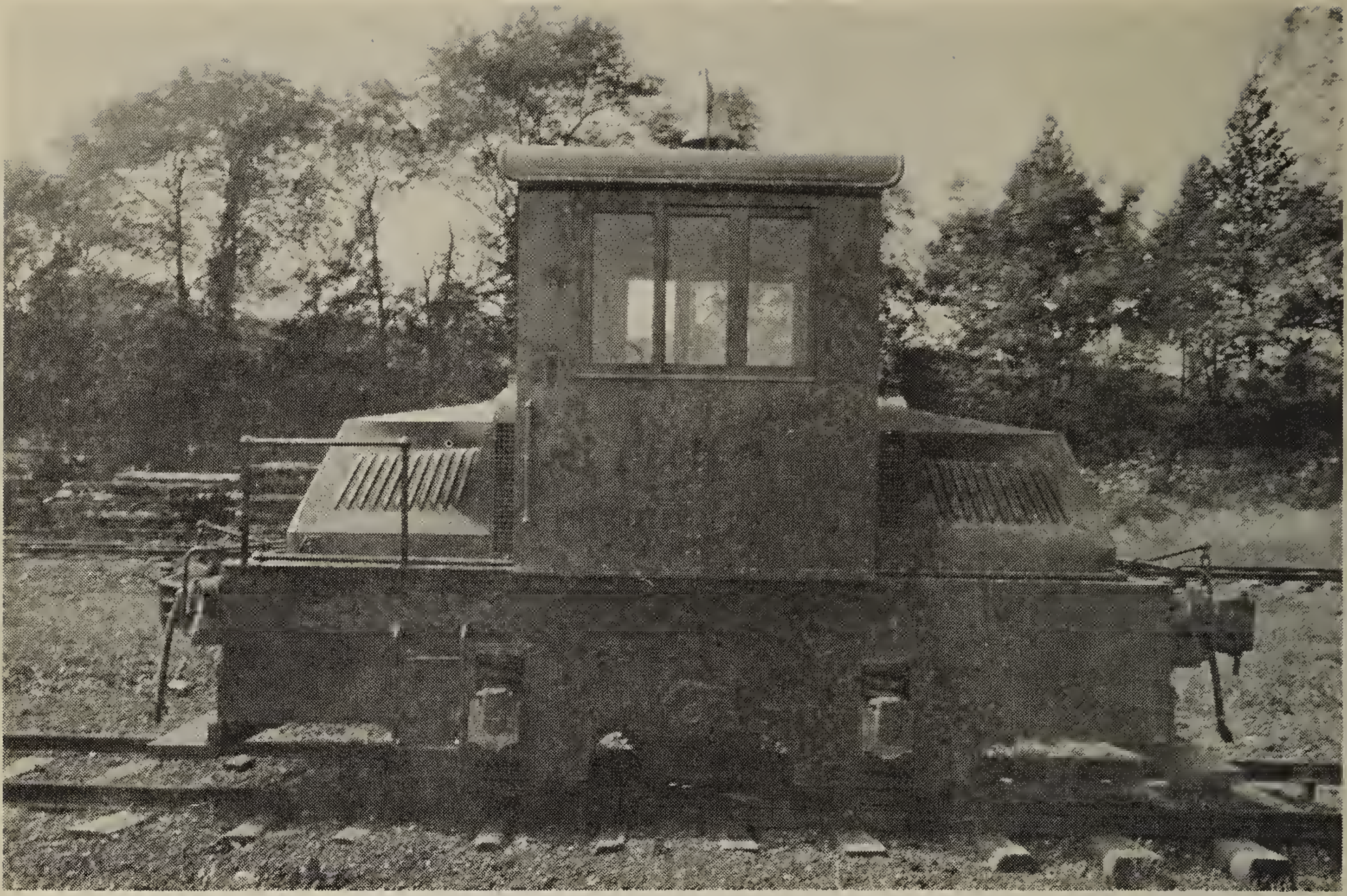
LOCOMOTIVES

Gasoline, 1921

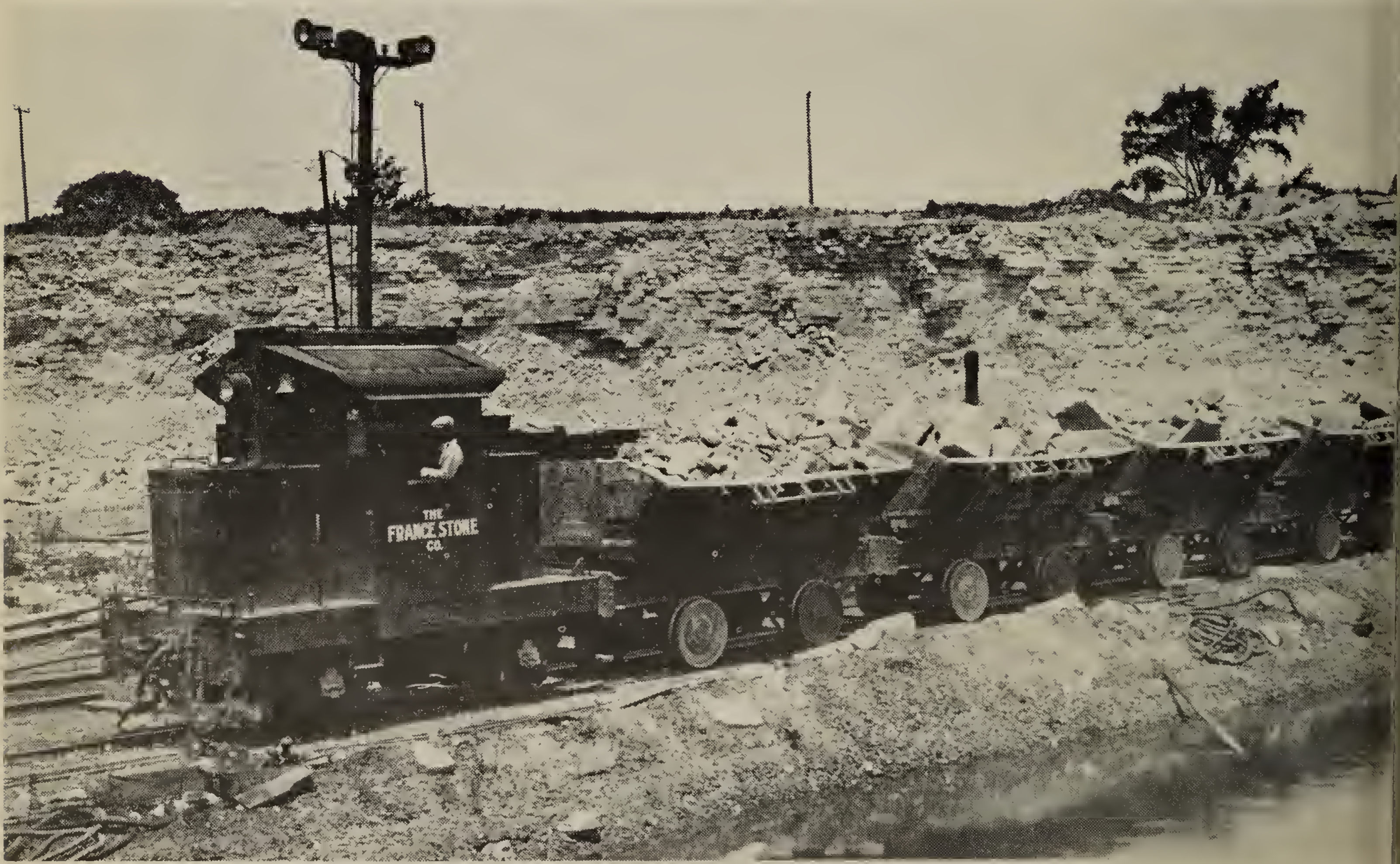
In May, 1921, Allentown Plant completed a 33 ton chain drive four wheel steeple cab locomotive, identified as No. 1, powered by two four cylinder 40 hp. AC gasoline engines. Mack engineers especially designed No. 1 to shift railroad cars at No. 5 plant, or the shipping and storage center, located along Philadelphia and Reading Railway Company's Allentown-Reading main line. The unique locomotive's transmission set beneath the cab floor in a subframe mounted within a four inch thick cast steel side frame. Both engines, although opposing, by means of gears, shafts, sprockets, and reverse mechanism operated alone or together. No. 1 served various Allentown Plant subdivisions until 1946.

TECHNICAL INFORMATION

Type	0-4-0
Base	Cast iron box frame
Weight	33 NT
Wheels	4, 30″, MCB tread
Wheel base	6 ft.
Length overall	18 ft., 6 in.
Length over bumper	15 ft., 10 in.
Length over cab	5 ft., 6 in.
Width over journal	8 ft., 2 in.
Width over cab	7 ft., 8 in.
Width over frame	6 ft., 9 in.
Height overall	11 ft., 8 in.
Height over cab	10 ft., 6½ in.
Journals	MCB, 5½″ x 10″
Axles	MCB, Class D, 7 in.
Engines	2, 40 hp AC, 5″x6″ bore, 4 cylinders
Max. Speed	9 m.p.h.
Air Brake	Westinghouse AMM
Air Brake Cyl.	14″ x 12″
Air Brake Main Reservoir	2, 14″ x 33″
Cooling System	2 fin tubes, each engine
Couplers	ARA, MCB
Hood	"Bulldog", each engine
Control	One position, cab



Mack's Allentown Plant switching locomotive No. 1 shortly after its construction in 1921.



The France Stone Company, 12 ton model, at Monroe, Michigan, quarry, circa 1930. As of January 1, 1959, the locomotive remained in service shuttling cars from a loading hopper to an incline.

Gas-electric, 1929-1937

Mack's gas-electric railway unit program introduced in 1927 eventually included eight auto truck, steeple, or box cab industrial and light yard switching locomotive models. One engine powered Model AV, BR standard, and BR special; two powered Model AW and BS; three powered Model AY and BT; and four powered Model AZ. Four cylinder Mack AC gasoline engines, single or multiple installations setting either longitudinally or crosswise, operated generators in Model BR special, BR standard, BS, and BT and six cylinder AP gasoline engines operated generators in Model AV, AW, and AZ. One engine operated one generator in all models. Instrument panel, throttle control, brake system, radiators, accessories, fittings, and electrical and mechanical equipment, identical to those in passenger cars, were uniform for all locomotive models. Sectioned flat sheet steel and standard angle cab and body construction, except the Model BR special auto truck type, provided, by removing panels, immediate access to the engine.

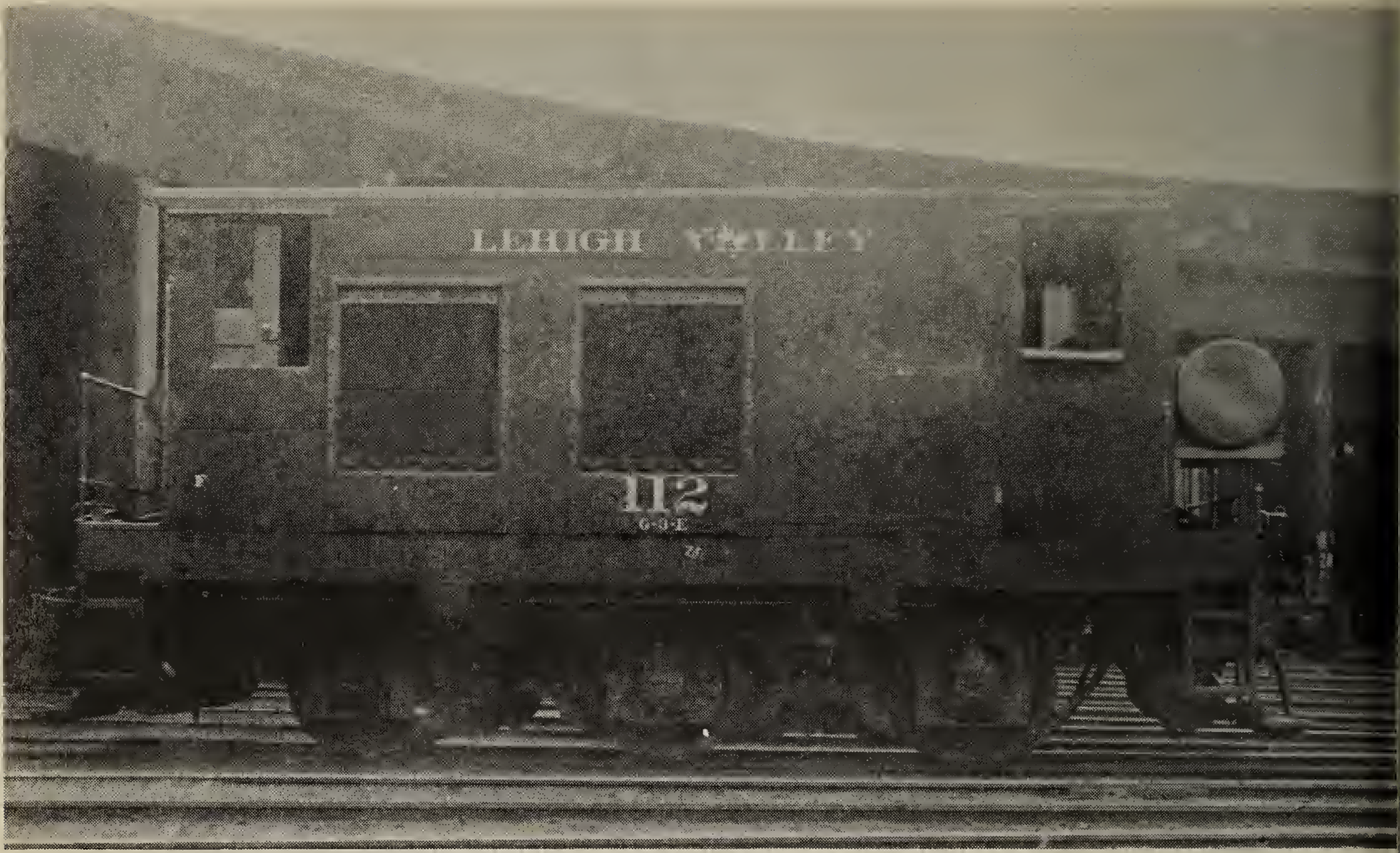
Shortly after locomotive production had begun, Mack classified types by ton weights rather than initials. The revised gas-electric program offered twelve models: 12, 15, 18, 24, 30, and 40 ton four wheel; 45 and 60 ton six wheel; and 24, 30, 40, and 80 ton eight wheel types. Actual production included 12, 15, and 30 ton four wheel and 45 and 60 ton six wheel types.

Rail car department pamphlets enumerated important features of Mack gas-electric locomotives: low operating costs; all around vision provided by steeple cab structure; two control stations; welded heavy plate and channel frame and cab; engine, generator, air compressor, and battery generator, mounted on a rigid base, set on heavy rubber blocks above the floor; minimum underframe equipment; and a stack which carried exhaust fumes over the roof.

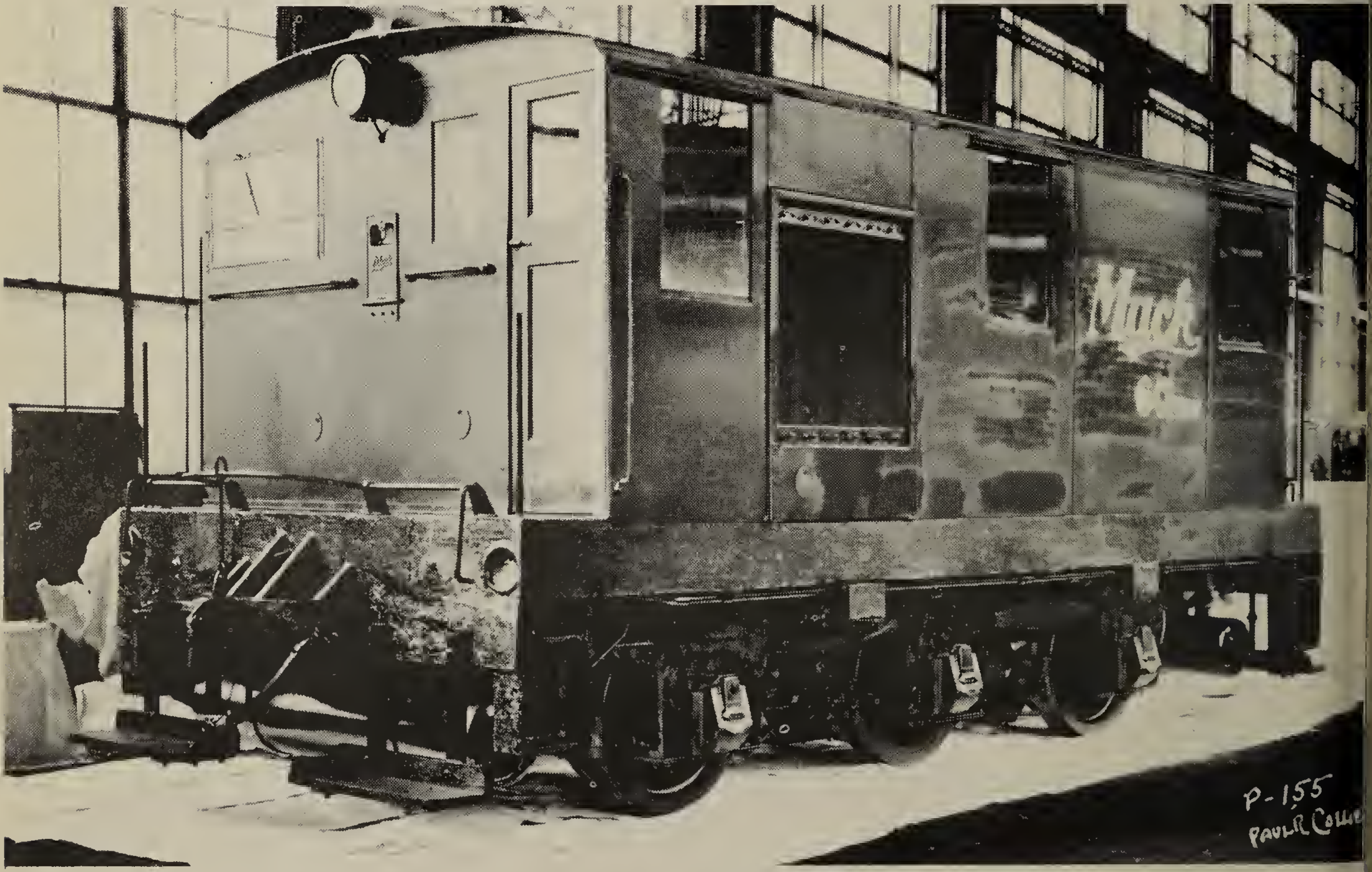
Advertisements further stated that two or more identical or different Mack locomotive models, coupled by standard railway couplers and jumpers with a six wire multiple plug and receptacle, could be operated from one control station if the load equipment exceeded that of a single locomotive's capacity. Under light load conditions, one engine of a single locomotive provided sufficient propulsion power.

Tests conducted at industrial locations proved that a 12 ton switcher, replacing a 45 ton steam locomotive, paid for itself in eighteen months and a 30 ton switcher, operating in a railroad yard, paid for itself in three years. Generally, a gas-electric locomotive accomplished the work of a steam locomotive one and one-half times its weight.

Mack demonstrated locomotive models in industrial plants, railroad yards, quarries, and docks. Between 1929 and 1937, the extent of gas-electric locomotive sales, industrial companies seeking compact economic lightweight switching units represented the predominant purchasers.



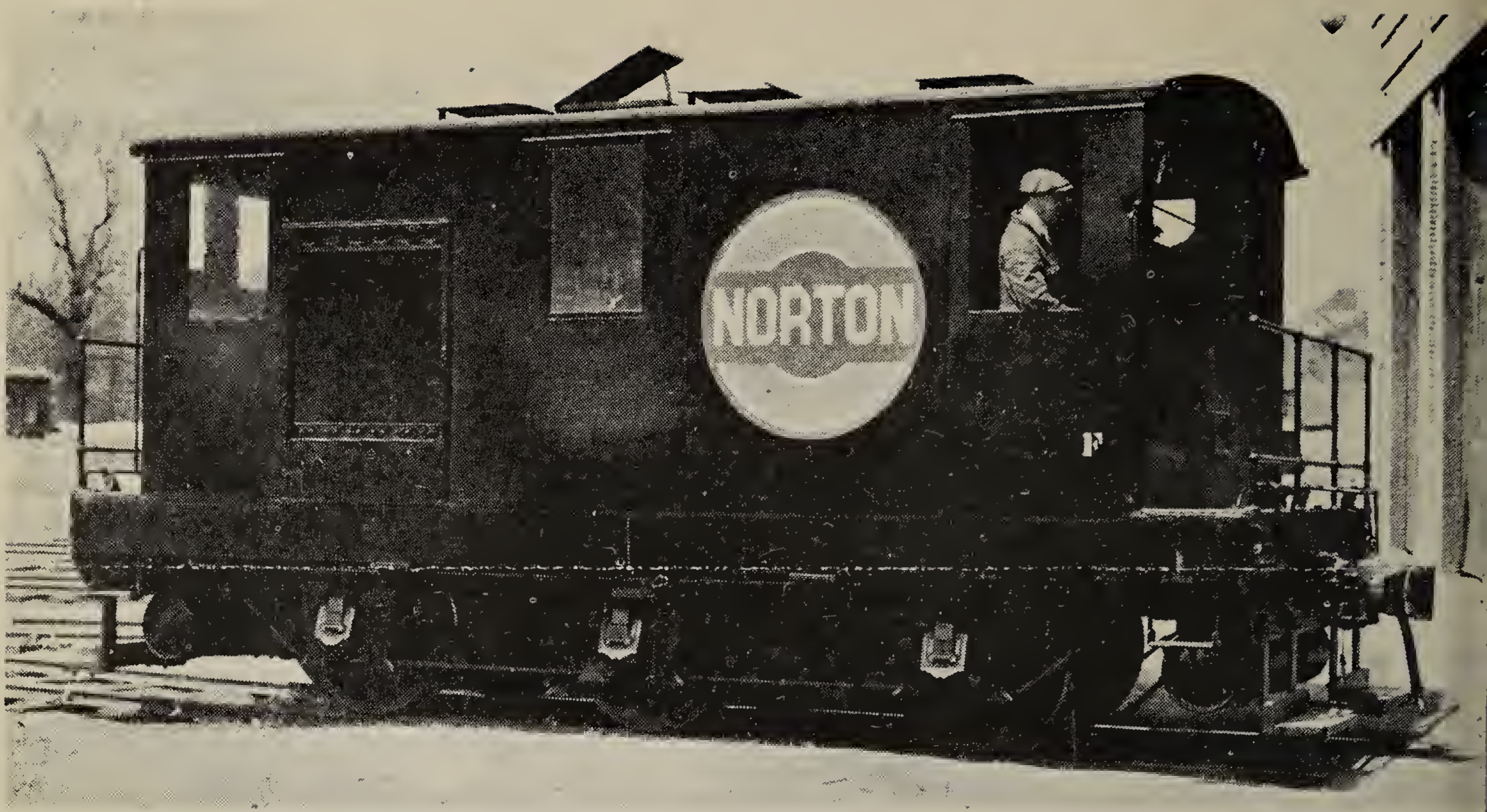
Lehigh Valley Railroad No. 112, 60 ton model, at Sayre, Pennsylvania, circa 1937.



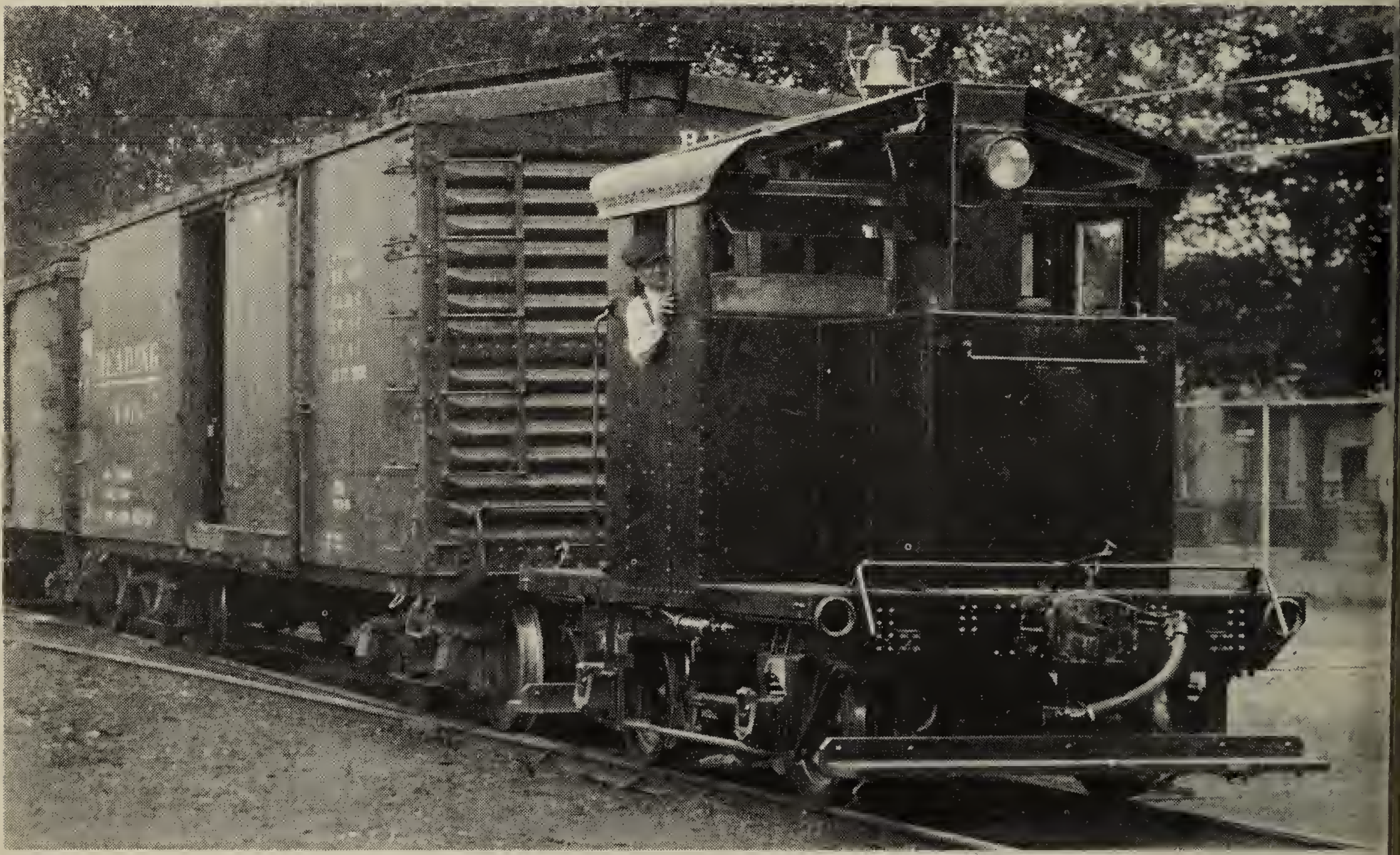
Mack 60 ton locomotive demonstrator, later Norton Company "Comet", at Plainfield Plant, 1929.

Diesel-electric, 1939

Allentown Plant, in 1939, acquired two double truck box cab electric switching locomotives from an unidentified lead mine near Joplin, Missouri, and converted both to diesel-electric operation. Two Mack six cylinder diesel engines and generators replaced pantographs and interior electric equipment, but the original traction motors remained within both Taylor trucks. Radiators set flush with apertures cut through body end plates. Identified as Nos. 3 and 4, the two former "juice jacks" presently perform switching assignments at the No. 5 division shipping center.



Norton Company "Comet", 60 ton model, served the Worcester, Massachusetts, plant of the nation's largest producer of grinding wheels between 1935 and 1942.

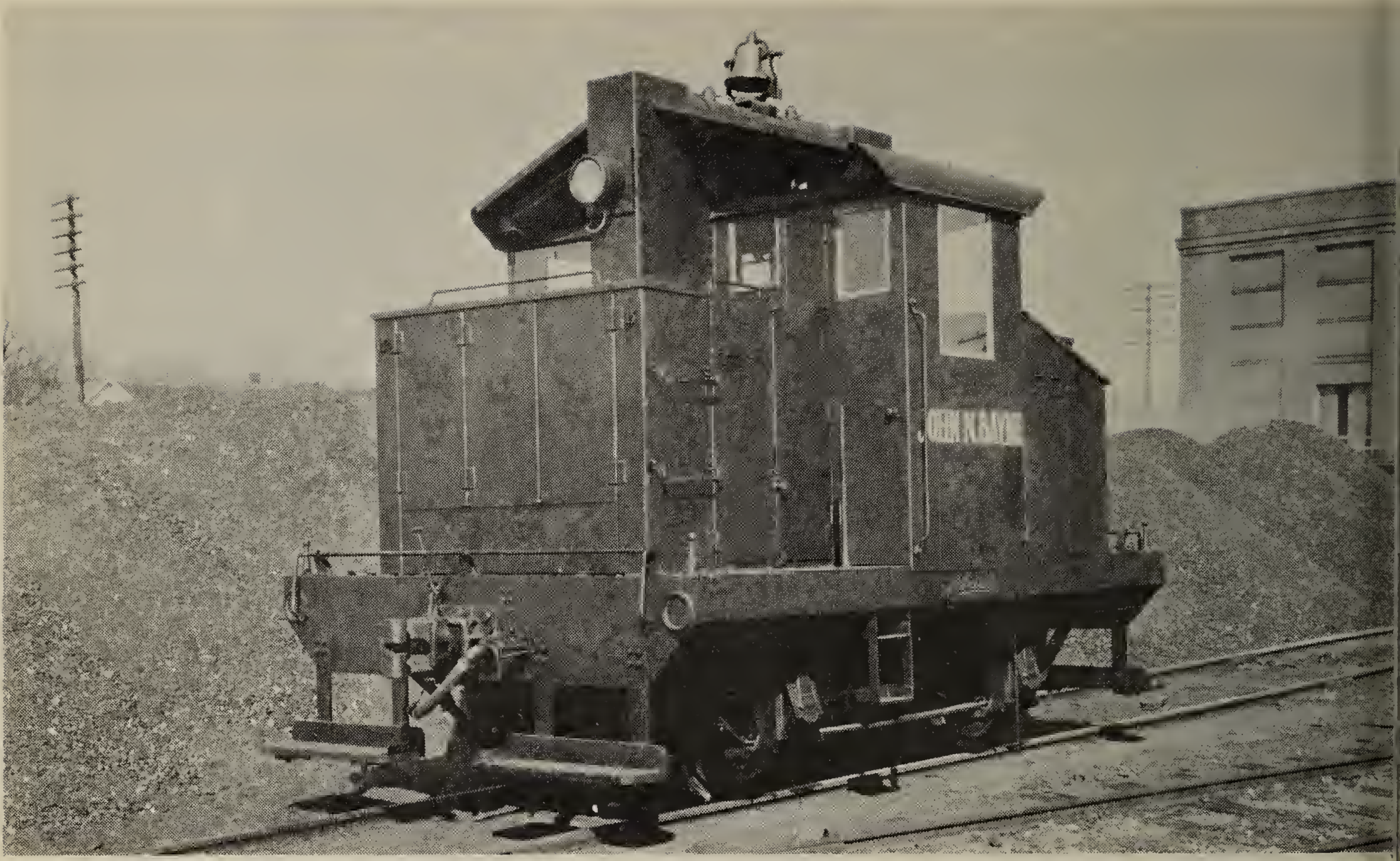


A Mack 15 ton model locomotive demonstrator undergoing tests on Plainfield Plant yard trackage, August 2, 1929.

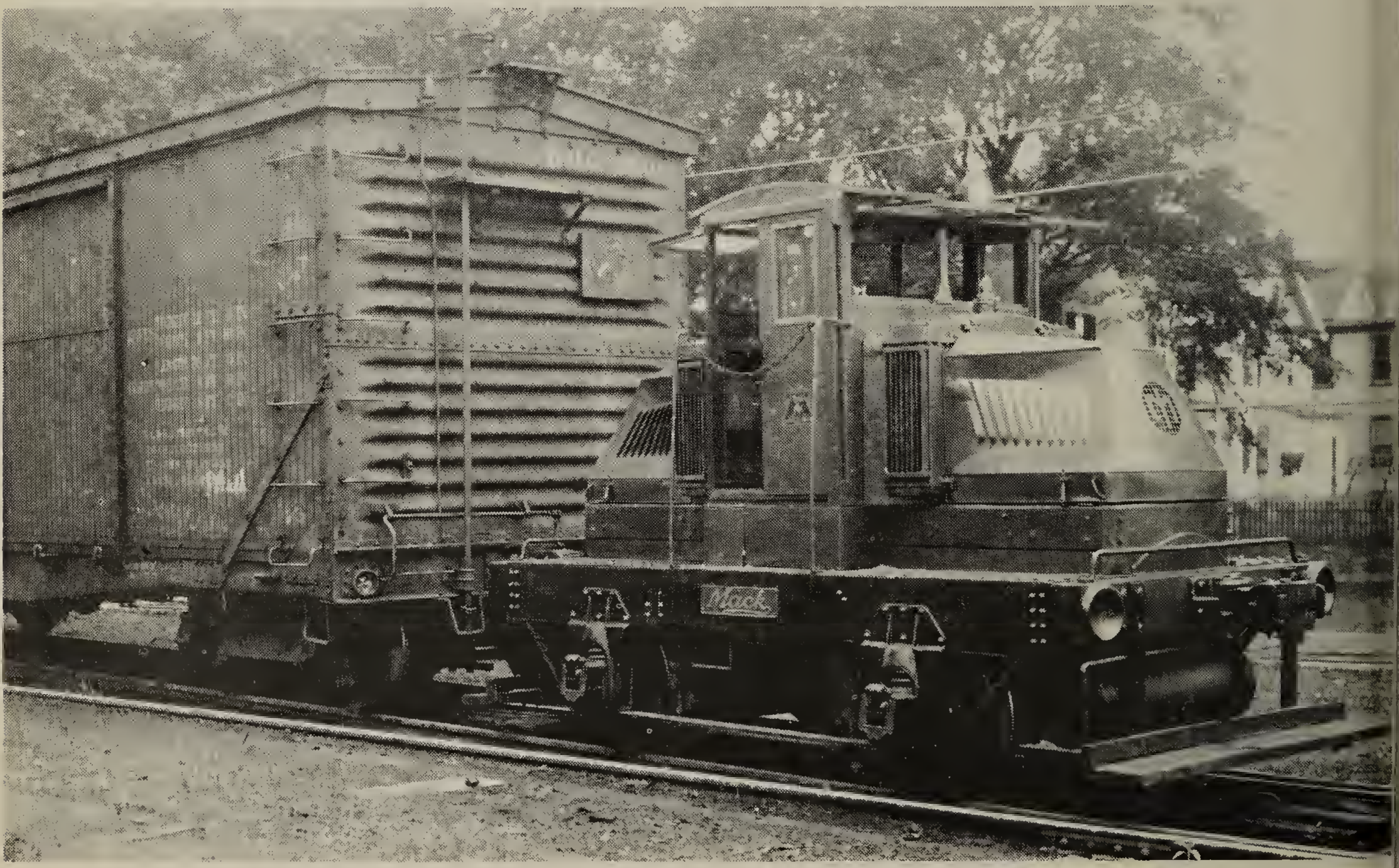
TECHNICAL INFORMATION, LOCOMOTIVES

VARIOUS MODELS

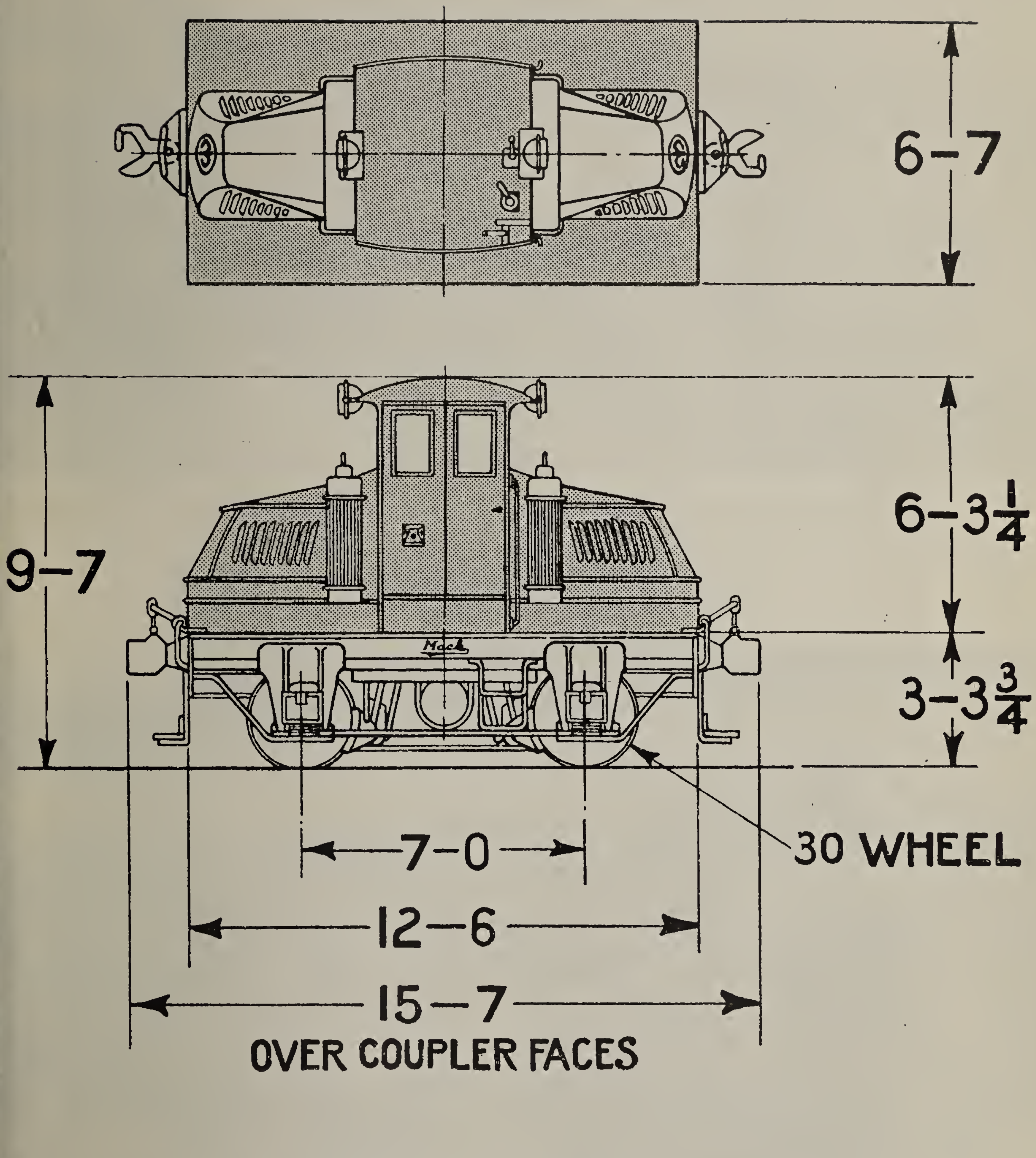
	Model BR, Standard	Model AV	Model AW	Model AY
Traction Motors	2, 150 hp. ea.	2, 150 hp. ea.	2, 150 hp. ea.	3, 150 hp. ea.
Pilots	Steps	Steps	Steps	Steps
Cab	4 ft. x 8 ft.	4 ft. x 8 ft.	4 ft. x 10 ft.	6 ft. x 10 ft.
Engine Hood	Steel sheet trunk	Steel sheet trunk	Steel sheet trunk	Steel sheet trunk
Drawing Cap.	468 NT	702 NT	1,365 NT	2,145 NT
Length-Sills	12 ft., 6 in.	12 ft., 6 in.	16 ft.	21 ft., 2 in.
Couplers	15 ft., 7 in.	19 ft., 5 in.	18 ft., 7½ in.	23 ft. 9½ in.
Width-Overall	8 ft., 1 in.	8 ft., 1 in.	10 ft.	10 ft., 1 in.
Frame	8 ft.	8 ft.	10 ft.	10 ft.
Height Overall	11 ft., 1 in.	11 ft., 1 in.	12 ft., 10 in.	12 ft., 10 in.
Truck Centers	7 ft.	7 ft.	7 ft.	6 ft., 6 in.
Wheels	4, 30 in.	4, 33 in.	4, 30 in.	6, 36 in.
Weight	12 NT	18 NT	30 NT	45 NT
Tractive Effort	7,200 lbs.	10,800 lbs.	23,000 lbs.	34,000 lbs.
Engine	1, 4 cyl., 85 hp.	1, 6 cyl., 135 hp.	2, 6 cyl., 135 hp. ea.	3, 6 cyl., 135 hp. ea.
Controller	1, K	1, K	1, K	1, K
Battery	1, 32 v	1, 32 v	2, 32 v ea.	3, 32 v ea.
Generator	1, GE 55 kw, DC	1, GE, 80 kw, DC	2, GE, 80 kw, DC	3, GE, 80 kw, DC
Radiator	2, 20 gal. cap. roof type	2, 20 gal. cap. roof type	4, 20 gal. cap. roof type	6, 20 gal. cap. roof type
Heating	Coal stove	Coal stove	Coal stove	Coal stove
Exhaust	Roof stack	Roof stack	Roof stack	Roof stack
Brakes	WH str. or auto. 4 shoes, 1 hand	WH str. and automatic, 4 shoes, 1 hand	WH, AML, 4 shoes, 1 hand brake	WH, AML, 6 shoes, 1 hand
Lights	2, 250 w head, 1 int. dome	2, 250 w head, 1 int. dome	2, 250 w head, 1 int.	2, 250 w head, 1 int.
Signals	1 bell, 1 air horn	1 bell, 1 air horn	1 bell, 1 air horn, 1 signal air whistle	1 bell, 1 air horn, 1 signal air whistle
Fuel Cap.	35 gals.	35 gals.	200 gals.	300 gals.
Couplers	2, ARA	2, ARA	2, ARA	2, ARA
Maximum Speed	20 mph.	20 mph.	20 mph.	20 mph.
Sanders	2, gravity	2, gravity	2, air	2, air



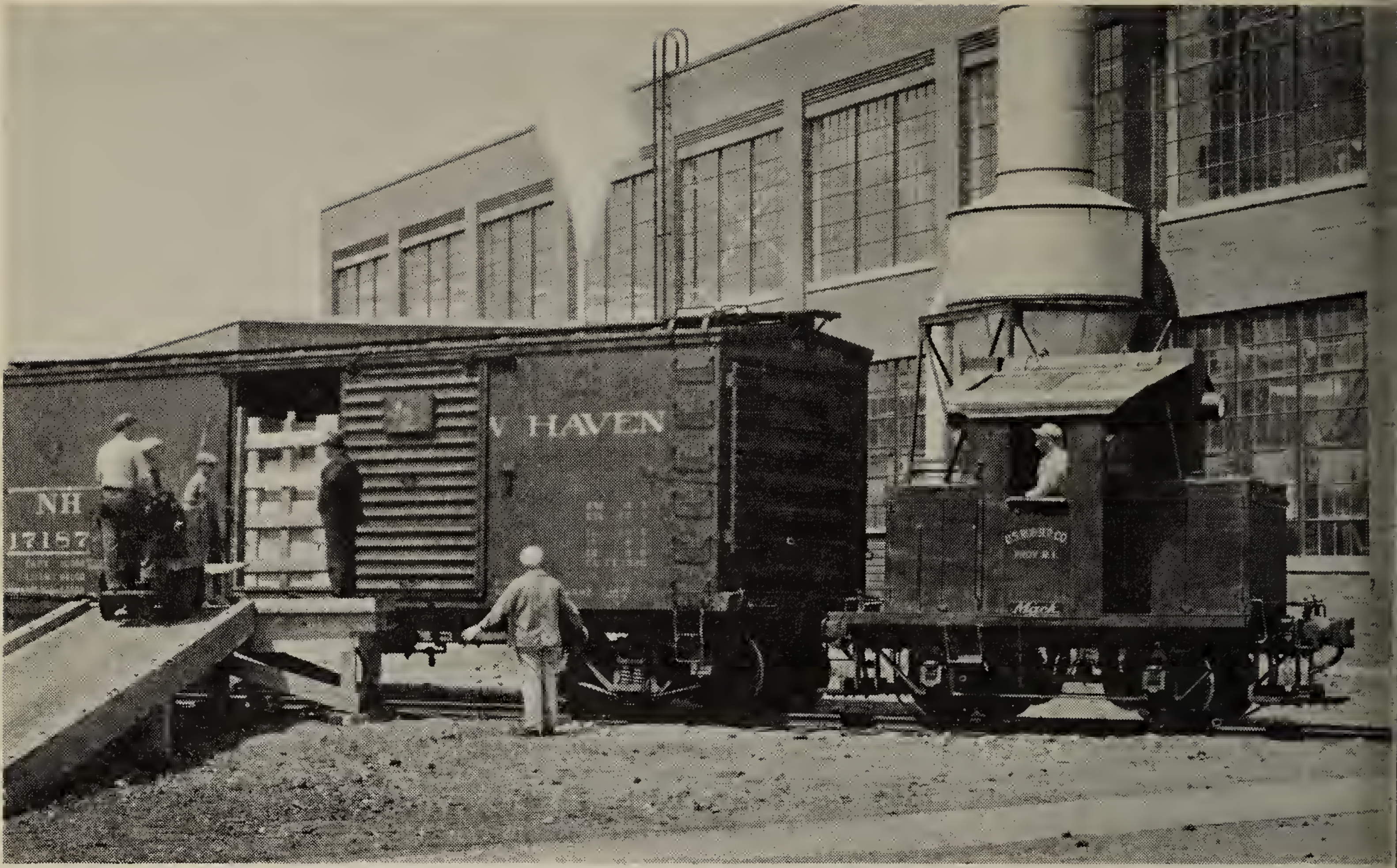
Mack 30 ton model locomotive "John N. Bayne", named to honor an offical of Mack Trucks, Incorporated, at Plainfield Plant, October 28, 1929.



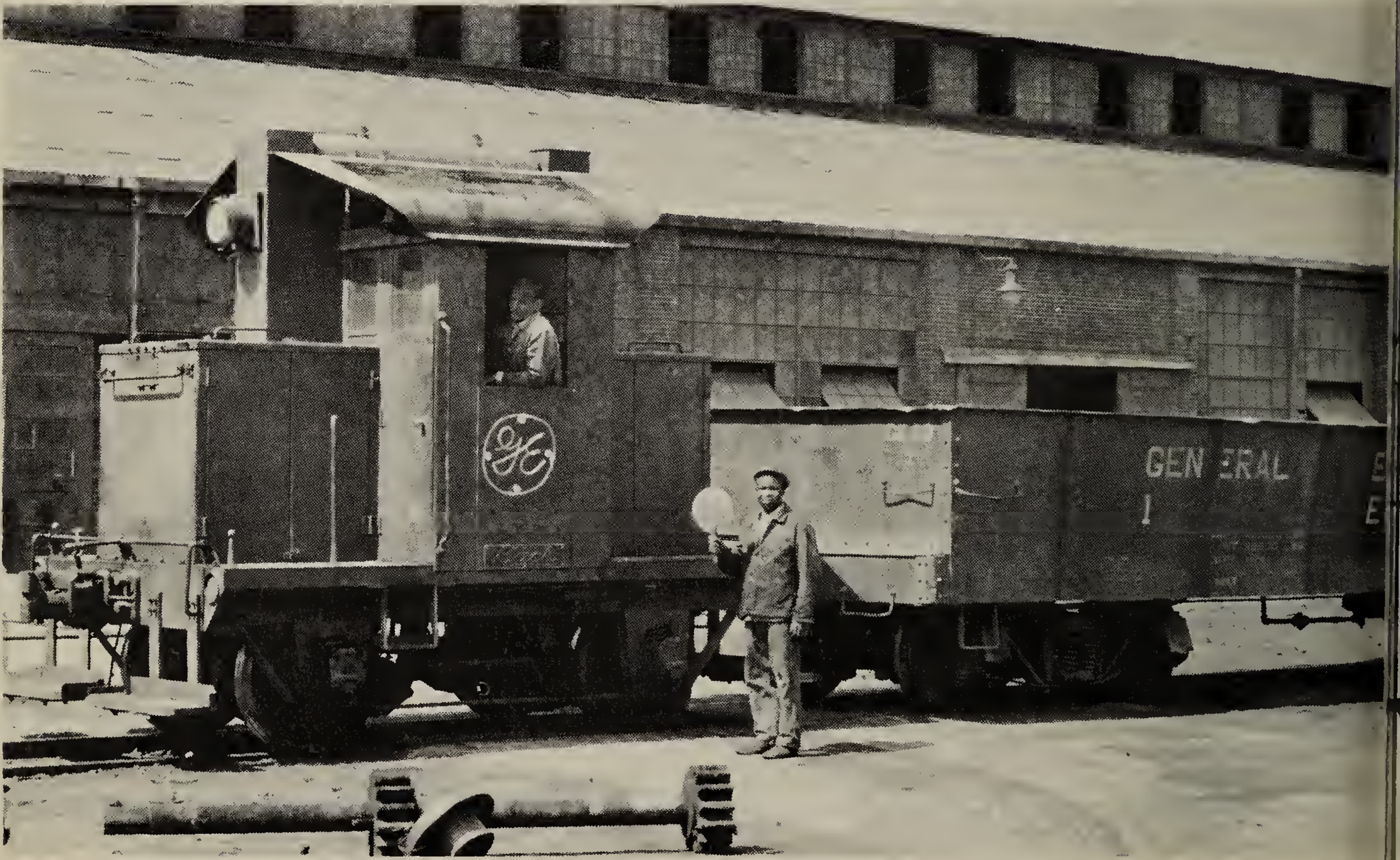
Edison Portland Cement Company, Model BR Special, 12 ton model, August 27, 1928, undergoing tests on Plainfield Plant trackage.



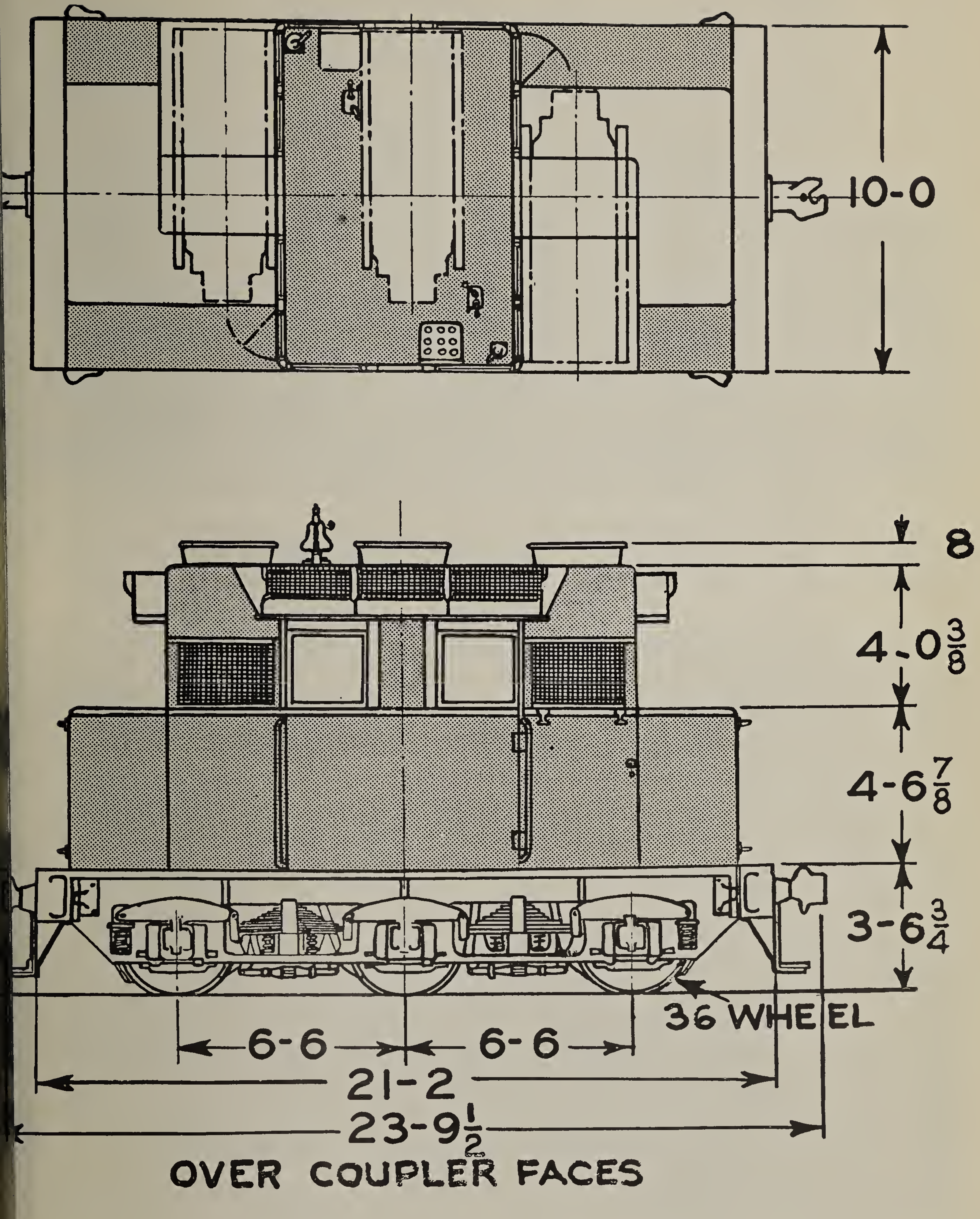
Model BR Special Single Unit Locomotive



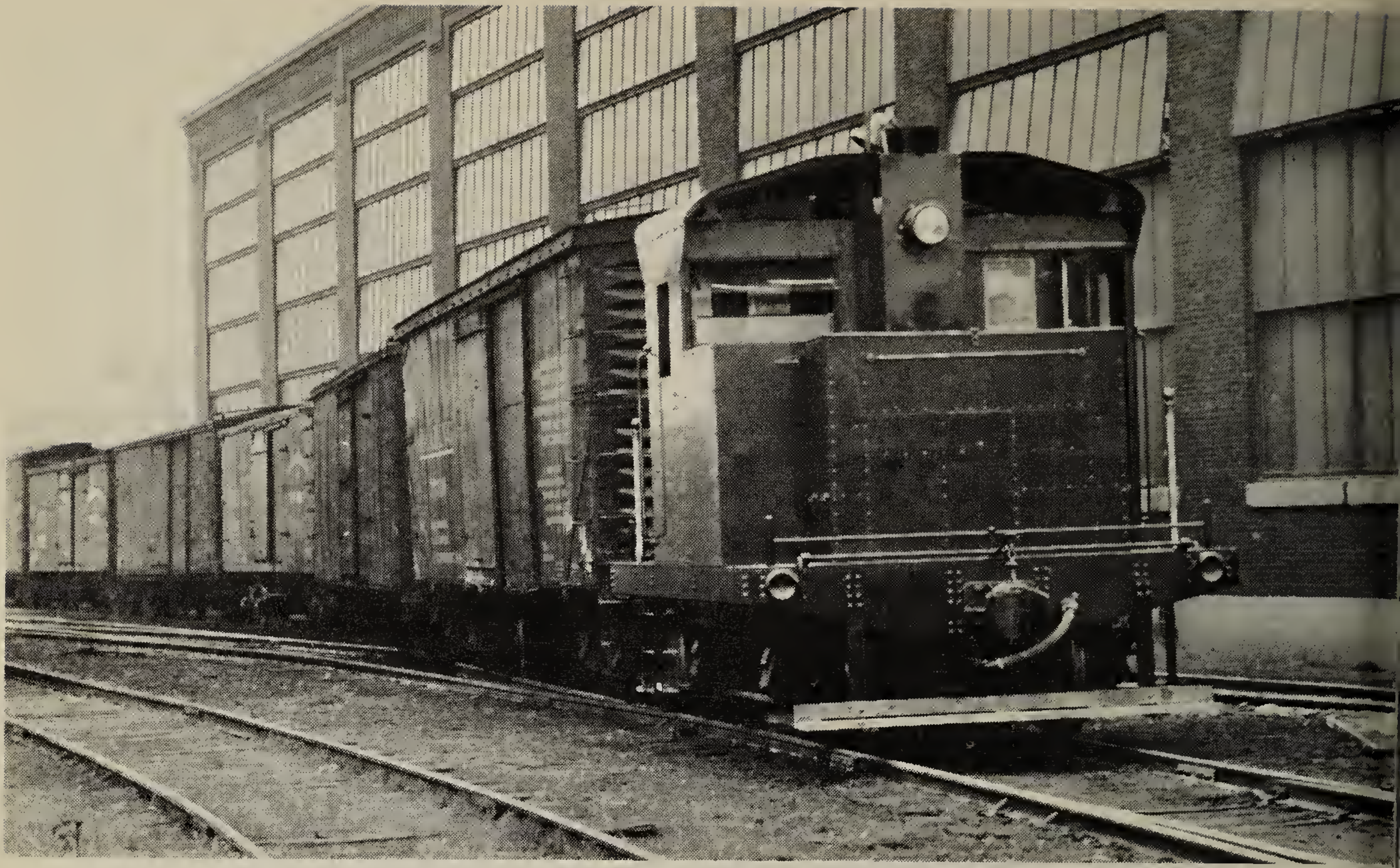
U. S. Rubber Company, 15 ton model, at Providence, Rhode Island, plan
in 1930.



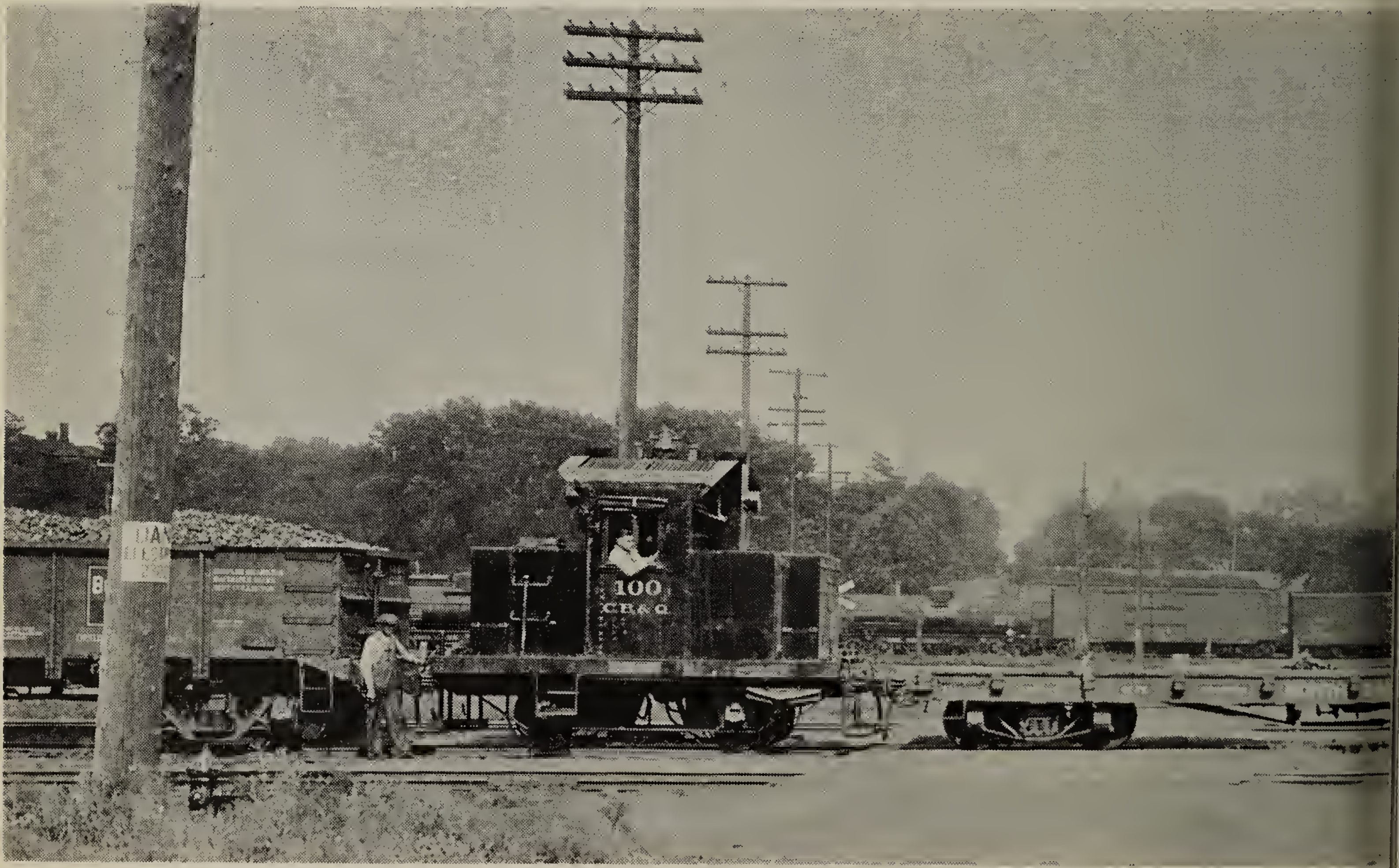
General Electric Company, 15 ton model, at Everett, Massachusetts, pla
in 1930.



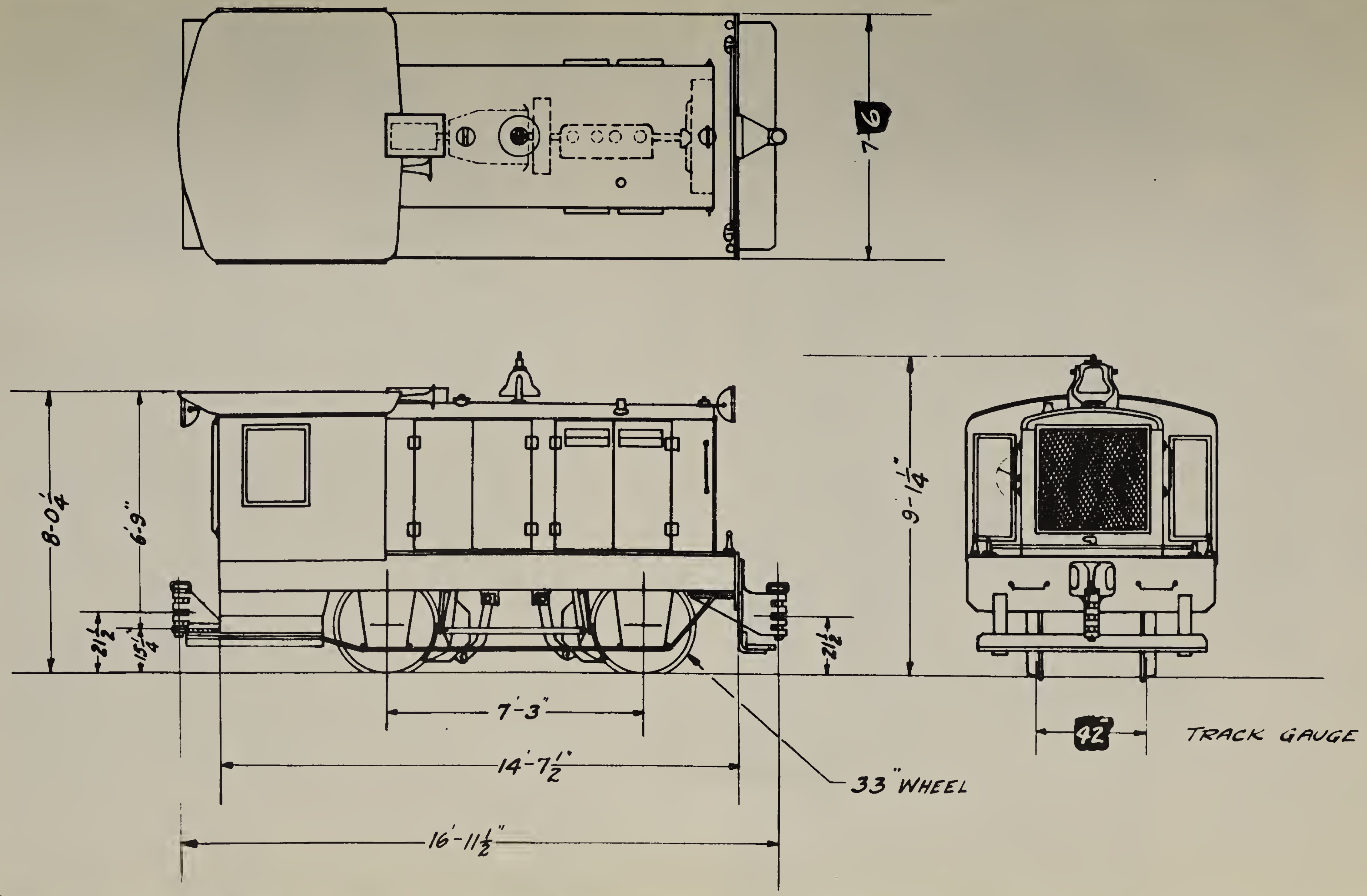
Model AY Three Unit Locomotive



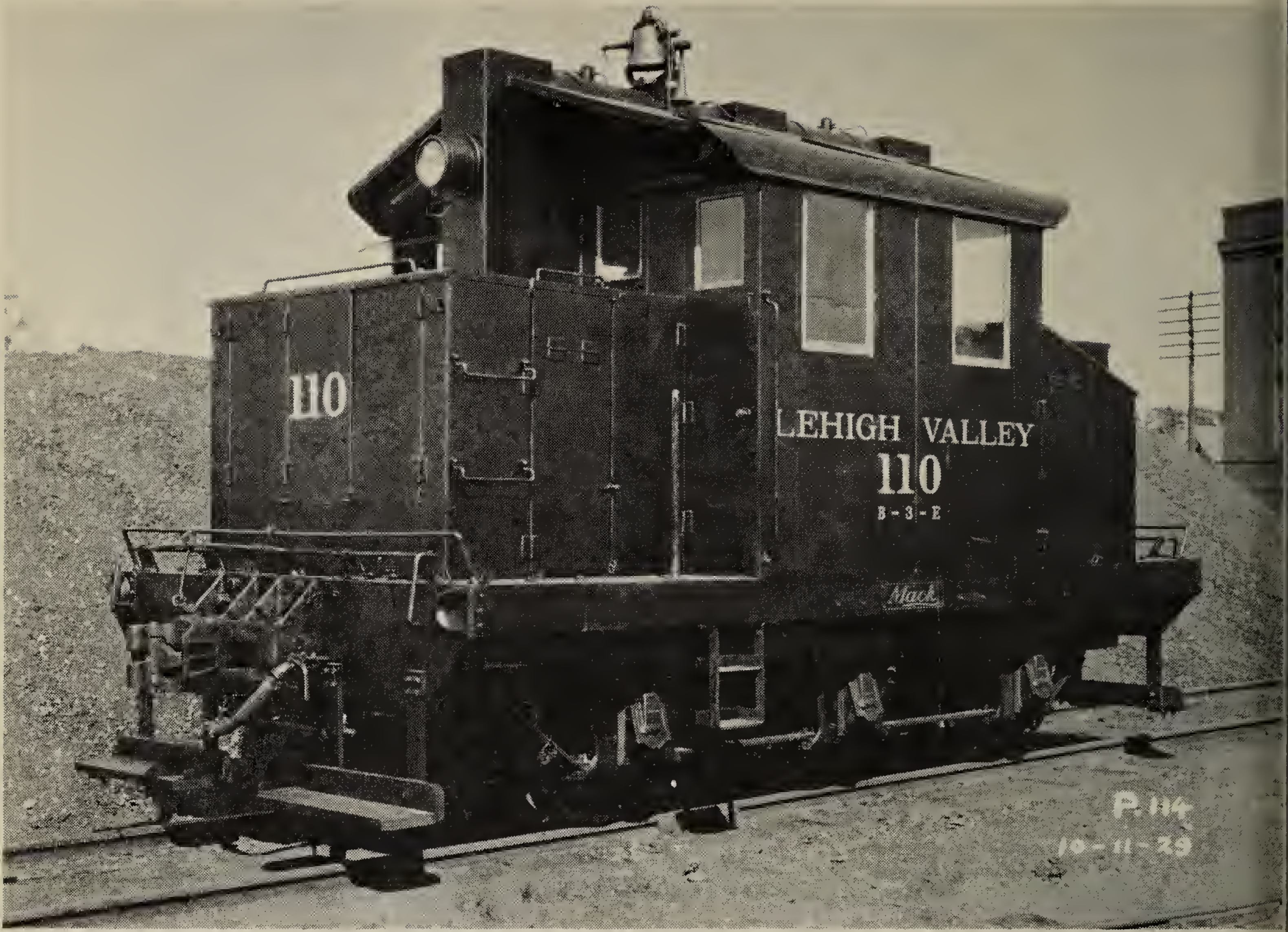
Mack 30 ton model locomotive demonstrator, later Chicago, Burlington and Quincy Railroad No. 100, undergoing tests on Plainfield Plant yard trackage, December 19, 1928.



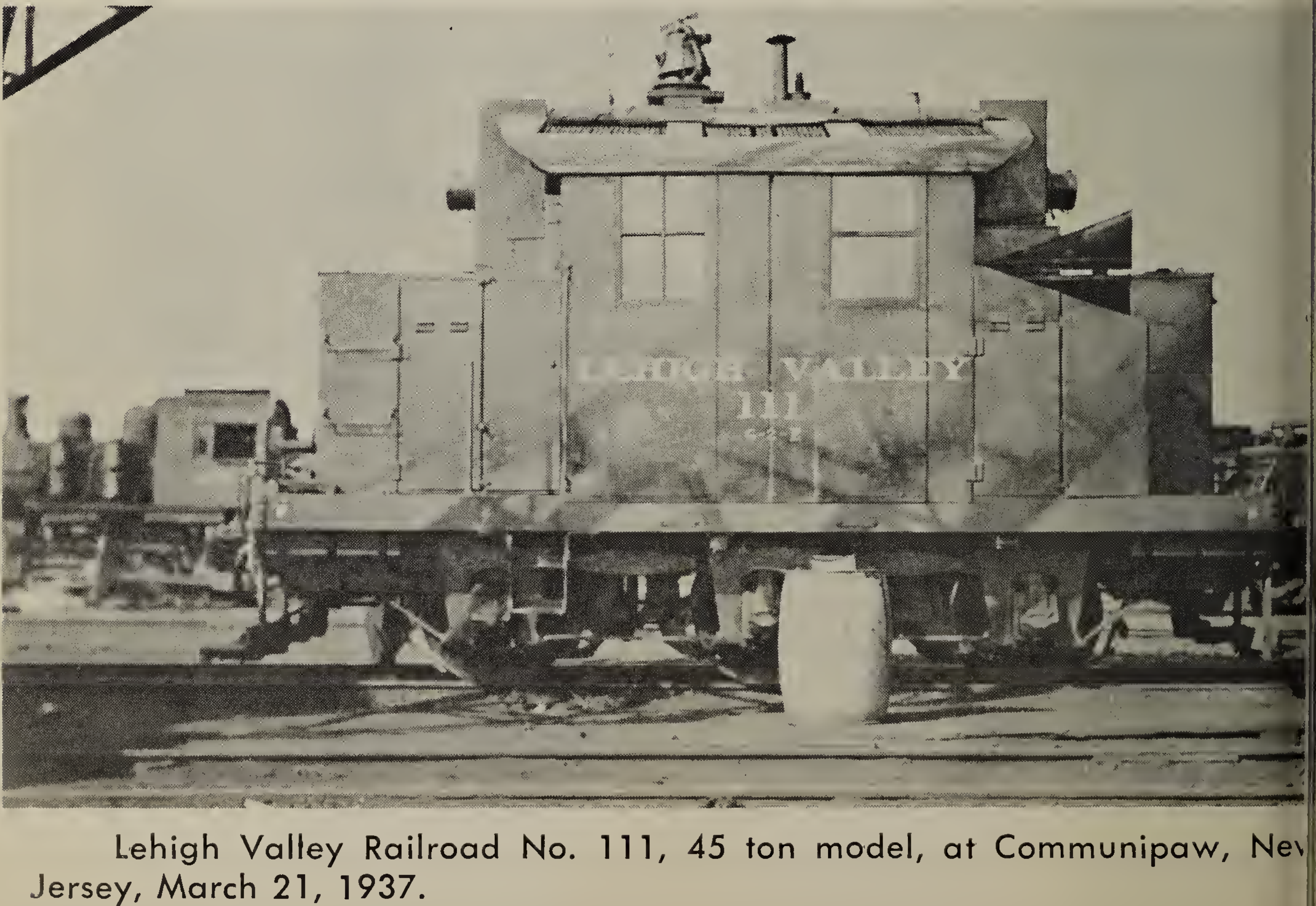
Chicago, Burlington and Quincy Railroad No. 100, 30 ton model, at Galesburg, Illinois, 1929.



10-12 Ton Model Single Unit Locomotive, Special Construction



Lehigh Valley Railroad No. 110, 45 ton model, at Mack's Plainfield Plant October 11, 1929. No. 110 normally operated in the New York harbor area



Lehigh Valley Railroad No. 111, 45 ton model, at Communipaw, Ne Jersey, March 21, 1937.

CONSTRUCTION ROSTER, LOCOMOTIVES

12 TON, 0-4-0, PLAINFIELD PLANT

Serial No.	Purchaser	No.	Date	Use	Disposition
165001	The France Stone Company	—	4/19/30	Monroe, Michigan, quarry	In service as of 1/1/59
165002	Cummins Eng. Company		2/16/37	(no record)	(no record)

60 TON, 0-6-0, PLAINFIELD PLANT

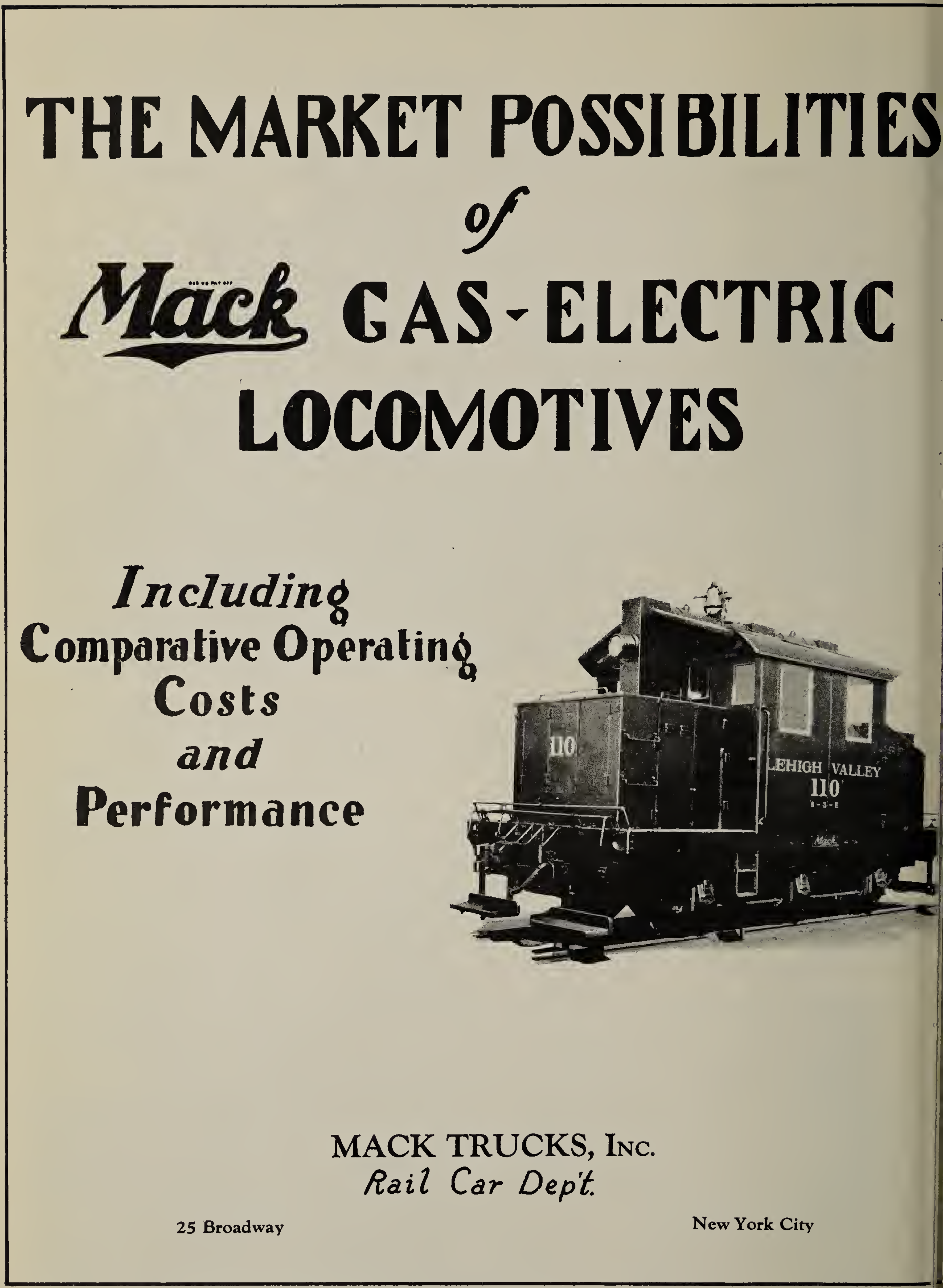
Serial No.	Purchaser	No.	Date	Use	Disposition
167001	Lehigh Valley RR	60	Aug., 1930	New York harbor	Also numbered 52 and 112. Scrapped, 11/20/46
167002	Norton Company	''The Comet''	5/16/35	Worcester, Mass., plant	Sold, 1942, Baltimore shipyard

60 TON, RESALE TRANSACTIONS

Serial No.	Purchaser	No.	Former Owner	Use	Disposition
167002	an unidentified Baltimore shipyard	—	Norton Company, Sold, 1942	Shifting	Reported to have been sold to a Mexican firm, 4/25/47

12-15 TON, 0-4-0, PLAINFIELD PLANT

Serial No.	Purchaser	No.	Date	Use	Disposition
171001	Edison Portland Cement	—	8/29/29	New Village, N. J. quarry	Plant equipment shipped to Chile circa., 1939
171002	Spencer Kellogg and Son	—	9/24/34	(no record)	(no record)
171004	U. S. Rubber Co.	—	2/20/30	Providence, R. I., plant	Scrapped, 6/5/56
171005	General Electric Company	—	2/3/30	West Lynn, Mass.	Dismantled, 1942
171007	Fegles Constr. Company	—	5/25/31	(no record)	(no record)
171008	Bigelow-Sanford Co.	—	10/12/35	Amsterdam, N. Y.	Scrapped, 1955
171009	Beth. Pacific Coast Steel Co.	2	9/30/30	San Francisco, Cal.	In service as of 1/1/59
171010	Perth Amboy Garage	—	9/30/30	Perth Amboy, N. J.	(no record)



THE MARKET POSSIBILITIES
of
Mack GAS-ELECTRIC LOCOMOTIVES

Including
Comparative Operating Costs
and
Performance

MACK TRUCKS, Inc.
Rail Car Dep't.

25 Broadway
New York City

Lehigh Valley Railroad No. 110, a 45 Ton Model, appeared on the cover of a performance report which Mack forwarded during 1930 to prospective purchasers of gas-electric locomotives.

CONSTRUCTION ROSTER, LOCOMOTIVES

30 TON, 0-4-0, PLAINFIELD PLANT

Serial No.	Purchaser	No.	Date	Use	Disposition
172001	Chicago, Burlington & Quincy RR	100	3/20/29	Galesburg, Ill., tie plant	Renumbered No. 8900 and 9100. Scrapped 6/13/52
172002	Donner-Hanna Coke Corp.	—	9/19/33	Buffalo, N. Y.	Sold, Fruit Growers Exp., 4/2/45
172003	Charles Lennig & Company	—	3/22/35	(no record)	(no record)
172004	Pouch Terminal Inc.	—	4/23/36	Staten Island, N. Y.	In service, 1/1/59

30 TON, RESALE TRANSACTIONS

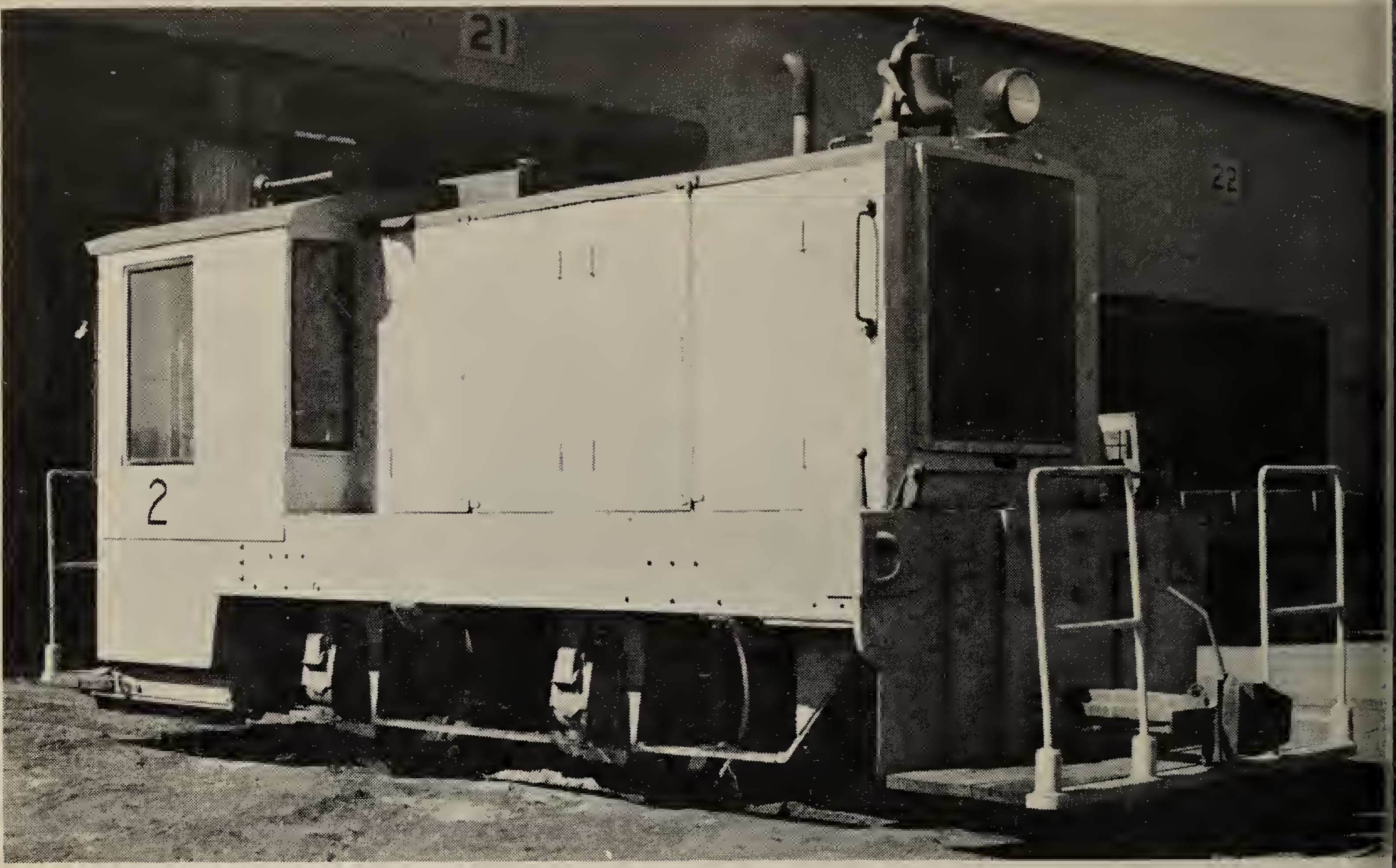
Serial No.	Purchaser	No.	Former Owner	Use	Disposition
172002	Fruit Growers Express	—	from Donner-Hanna Coke., Buffalo, New York, 4/2/45	Indiana Harbor, Ind.	Scrapped, Feb. 1952

45 TON, 0-6-0, PLAINFIELD PLANT

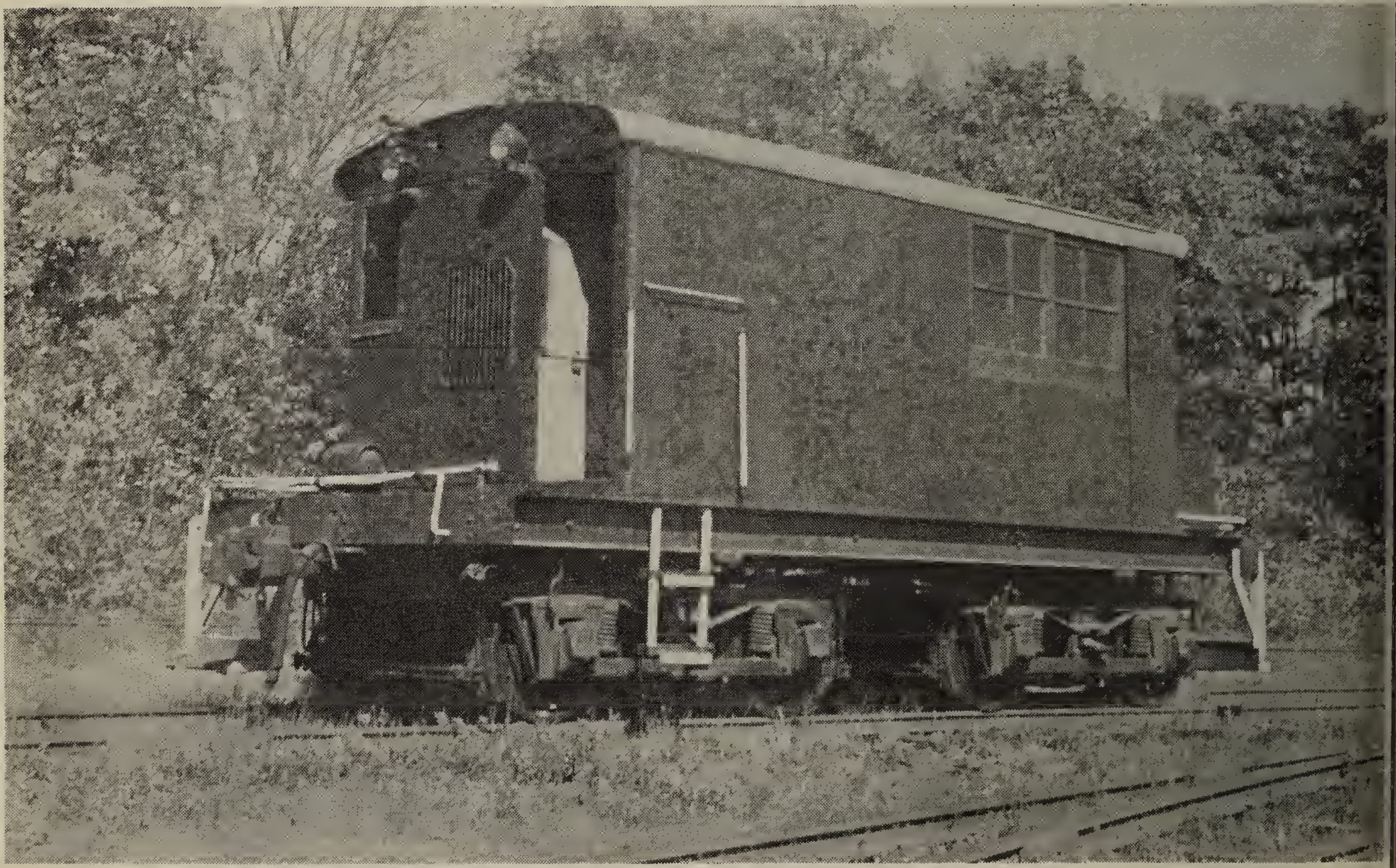
Serial No.	Purchaser	No.	Date	Use	Disposition
173001	Lehigh Valley RR	110	12/19/29	New York harbor	Renumbered 50, Scrapped 11/20/46
173002	Lehigh Valley RR	111	12/31/29	New York harbor	Renumbered 51, Scrapped 11/20/46

UNCLASSIFIED, ALLENTOWN PLANT

Serial No.	Purchaser	No.	Date	Use	Disposition
—	Mack (33 Ton)	1	1921	Allentown shipping center	Scrapped, 1946
—	Mack (ex Joplin, Mo. lead mine elec. locomotive) double truck	3	1939	Allentown shipping center	In service, 1/1/59
—	Mack (ex Joplin, Mo. lead mine elec. locomotive) double truck	4	1939	Allentown shipping center	In service, 1/1/59



Bethlehem Pacific Coast Steel Corporation No. 2, 12 ton model, performing yard service over narrow gauge trackage of the San Francisco, California plant, April, 1959. No. 2, originally a narrow gauge type, had been a standard gauge locomotive between 1941 and 1946.



Mack's Allentown Plant diesel-electric switching locomotive No. 3 formerly a Missouri lead mine electric locomotive, setting in the yard of th Allentown shipping center, October 12, 1958.

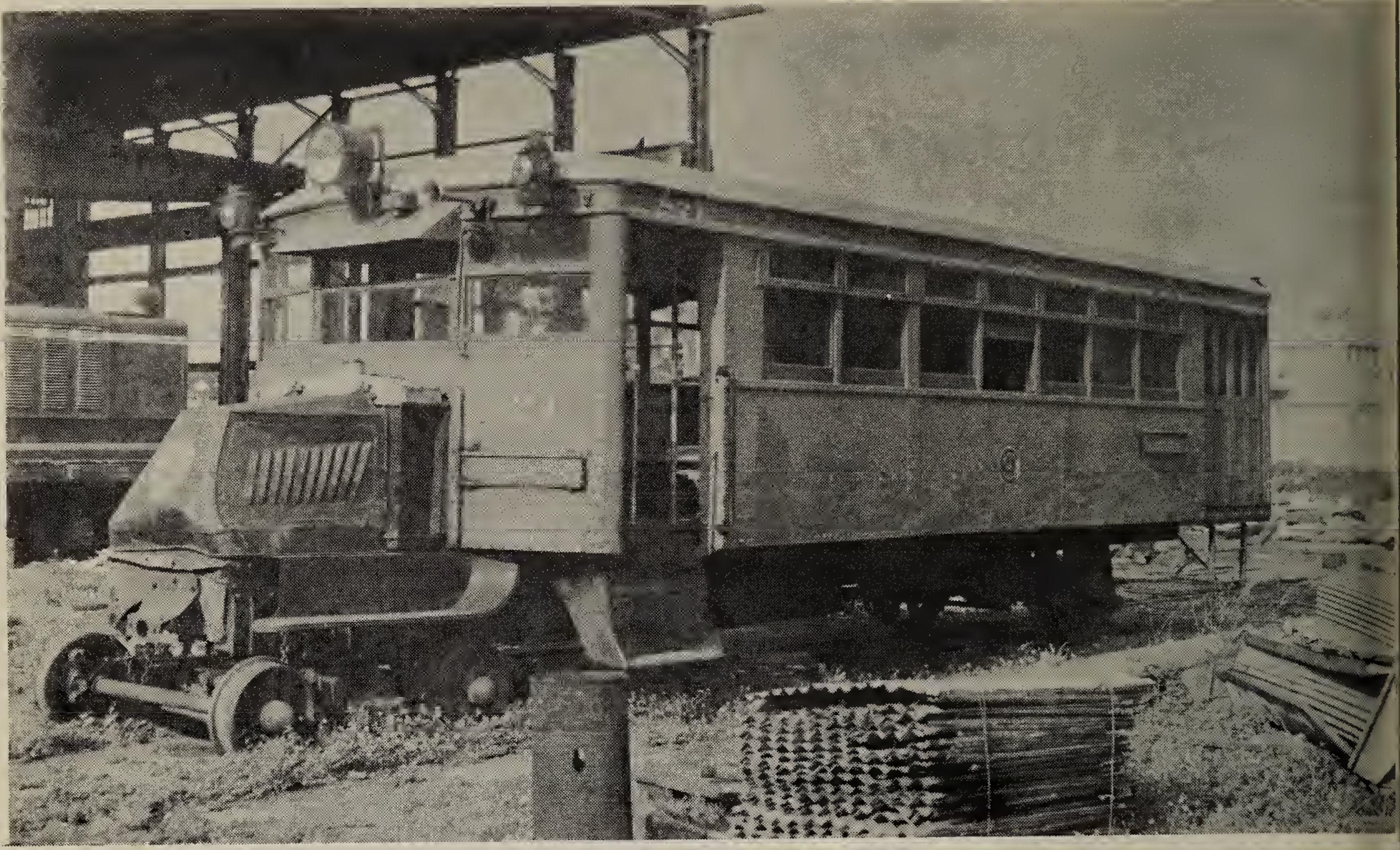
PRESENT AND FUTURE USE OF MACK RAIL MOTOR CARS AND LOCOMOTIVES

As of January 1, 1959, twenty-six Mack passenger rail motor cars remained, in various capacities, on the rosters of thirteen railway systems: No. M80, California Western Railroad; No. "A", Buffalo Creek and Gauley Railroad; No. 51, Chestnut Ridge Railway; Nos. 4071 and 4072, Reading Company; No. B1, Winnipeg Hydro Electric System; No. SPMW 4257, demotorized, Southern Pacific Company; Nos. PM3 and PM6, Manitoba Hydro Electric Board; No. 31, Greater Winnipeg Water District Railway; Nos. 821, 824, 827, and 828, Ferrocarriles Occidentales de Cuba; No. 820, Covadonga Railway; Serial Number 70023, Colombian National Railway System; Nos. 10, 11, 12, 13, 14, 15, 16 and 17, The New York, New Haven and Hartford Railroad Company; and Nos. 402 and 403, Sperry Rail Service. Three Mack locomotives served three industrial companies: one each at the Bethlehem Pacific Coast Steel Corporation, San Francisco, California; The France Stone Company, Monroe, Michigan; and Pouch Terminal, Staten Island, New York. The two former electric locomotives which Mack converted to diesel-electric operation in 1939 continued to perform switching assignments at their No. 5 shipping center in Allentown. One rail truck, Serial Number 70024, was stored in serviceable condition at the Pointe du Bois site of the Manitoba Hydro Electric Board.

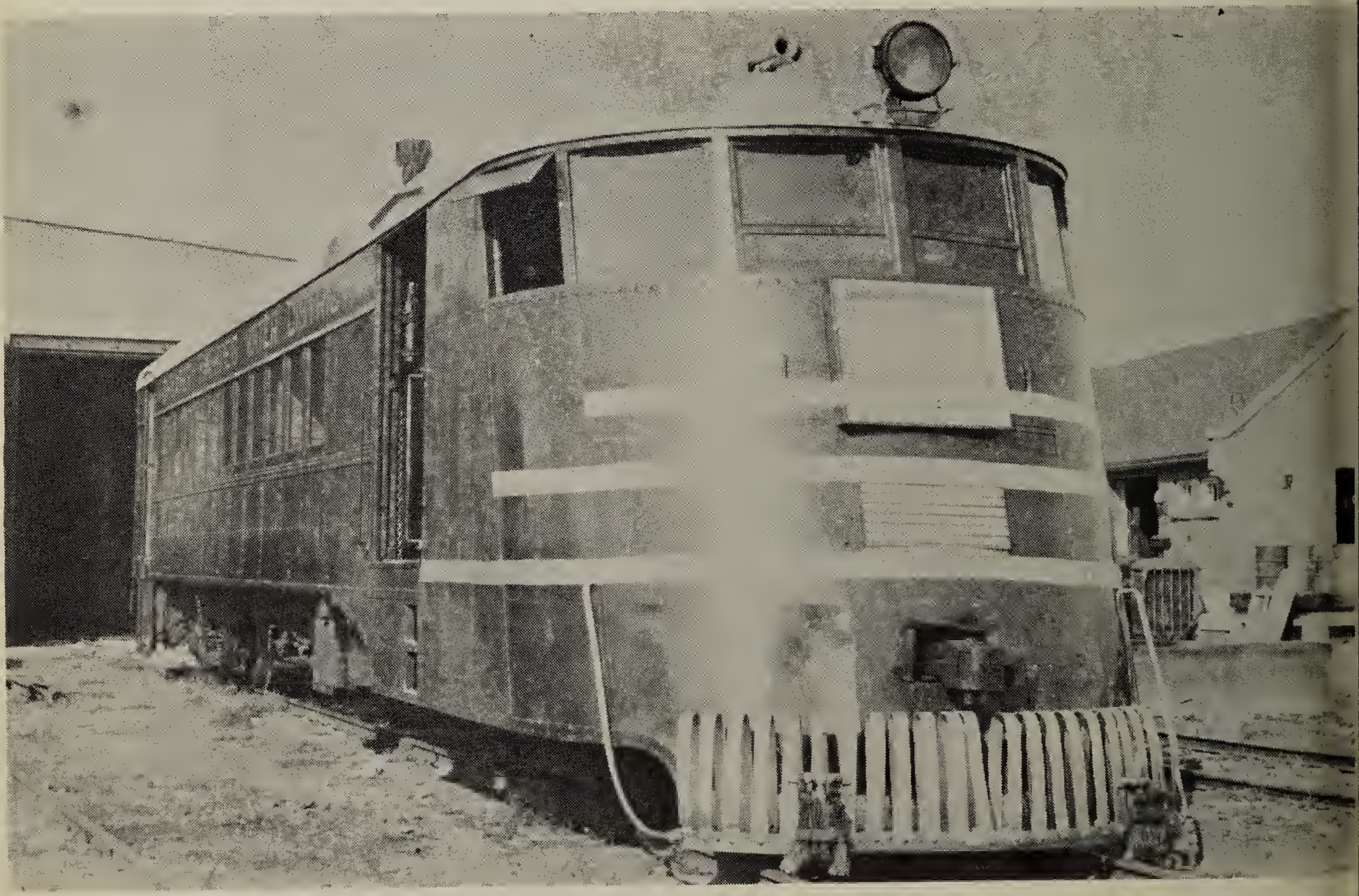
Several Mack rail motor cars and locomotives have, or had been, structurally and mechanically revised by owners for various reasons sometime during operational years and most of them barely resemble, or resembled at the time of their disposition, the original Mack product. Others remained unchanged.

Mack's future activity in rail motor car and locomotive construction remains a conjecture. A prospective customer's inquiry would be duly processed. Nationally, the passenger railway industry reports mounting operational losses and warns that either a substantial increase in patronage or a subsidy by political bodies can insure the continuation of commuter services serving metropolitan areas. Citizens in several major cities have already voted favorably to have municipal governments conduct studies which will eventually determine the feasibility of establishing rapid transit railway systems by integrating existing trackage and new construction. The commuter problem will become more acute during the early 1960's.

THE END



Ferrocarriles Occidentales De Cuba No. 821, Model AC, purchased in 1923 by Havana Central Railway, at Havana, Cuba, April, 1959.



Greater Winnipeg Water District Railway No. 31, formerly Winnipeg Electric Company No. PM5, Model AS, at St. Boniface, Canada, in 1958. Note lengthened streamlined front end.

2089